

VSB – TECHNICAL UNIVERSITY OF OSTRAVA

FACULTY OF ECONOMICS

DEPARTMENT OF FINANCE

Hodnocení solventnosti společnosti Starbucks Corporation

Solvency Assessment of Starbucks Corporation

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Ostrava, 2019

VŠB - Technical University of Ostrava
Faculty of Economics
Department of Finance

Bachelor Thesis Assignment

Student: **Jiangxing Huang**
Study Programme: **B6202 Economic Policy and Administration**
Study Branch: **6202R010 Finance**
Title: **Solvency Assessment of Starbucks Corporation**
Hodnocení solventnosti společnosti Starbucks Corporation

The thesis language: **English**

Description:

1. Introduction
2. Description of the Financial Analysis Methodology
3. Assessment of Financial Position
4. Solvency Assessment
5. Conclusion
Bibliography
List of Abbreviations
Declaration of Utilisation of Results from the Bachelor Thesis
List of Annexes
Annexes

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Extent and terms of a thesis are specified in directions for its elaboration that are opened to the public on the web sites of the faculty.

Supervisor: **Ing. Jiří Valecký, Ph.D.**

Date of issue: 23.11.2018
Date of submission: 10.05.2019





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The declaration

I hereby declare that I have elaborated the entire thesis including annexes myself.

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1. Introduction

Solvency refers to the ability of an entity to pay its debts. Solvency also describes an enterprise's ability to pay long-term costs and achieve long-term growth. If the business is unable to pay, under local bankruptcy laws, companies may not be able to continue operating and need to go bankrupt and pay their debts. So both the company's managers, creditors and investors. They all need to pay more attention to the solvency of the company. By calculating the solvency of the company, we can know the operating conditions of the company and the ability to repay the debt. Also we can know whether there is a big risk for company.

This thesis mainly evaluates Starbucks ' operating conditions and solvency through the analysis of Starbucks ' financial statements during 2015 to 2018.

The goal of the thesis is to analyze the factors which influence the solvency of the company. And we can learn about the value and risk of Starbucks ' investments, as well as how we can improve the company's development.

This thesis is divided into five chapters. In the first chapter, we mainly introduce the writing significance of this thesis and the structure of this thesis.

In chapter 2, we introduce the theoretical part of this thesis. All financial analysis starts with financial statements. So we start with three statements, the balance sheet, the income statement, and the cash flow statement. And then we introduced a relatively simple method of analysis. It is common-size analysis. Common-size analysis is also divided into horizontal common-size analysis and vertical common-size analysis. They analyzed the company's operating conditions from two different angles. Then we introduced several financial ratios used to analyze the state of the company. They are profitability ratios, liquidity ratio, activity ratio and solvency ratio. In the end, we introduce the pyramidal decomposition.

In chapter 3. We mainly introduce the current situation of the company, and then carry out financial analysis of the company. We introduced Starbucks ' history of development, corporate culture, position in the industry and major competitors. And then used the common-size analysis and the financial ratio that in addition to solvency ratio to analysis the Starbucks.

In chapter 4. This is the important part of this thesis. We analyze the solvency and operating

conditions of the Starbucks by calculating the solvency ratio of the company. Then we use the pyramidal decomposition to calculate the influence of each item about the solvency of Starbucks.

In chapter 5. We give the final analysis conclusions and thoughts on the results. All the methods will help us to learn in the future.

2. Description of the Financial Analysis Methodology

In this chapter, we decide to introduce main method about financial analysis. Describing the fundamental definition and correct usage of methods. In this chapter, the main methods are common-size analysis, financial ratio analysis and pyramidal decomposition.

2.1 Financial Analysis

Corporate financial analysis is the process of selecting, evaluating and interpreting financial data and other relevant information in order to evaluate the current and future financial status and performance of the company. We can use financial analysis to evaluate a company's operating efficiency, its ability to manage its expenses, the effectiveness of its credit policies, and its creditworthiness.

Analysts obtain data for financial analysis from many sources. The main source of this data is the company itself, through its annual and quarterly reports and other necessary disclosures. The annual report includes the income statement, the balance sheet, and the statement of cash flow, the statement of shareholders' equity. In addition to the information that is required to disclose through a company's financial statements, it is often easy to find additional information that is useful, including the company's stock market price and industry statistics. Another source of information is economic data such as gross domestic product (GDP), producer price index (PPI) and consumer price index (CPD), which we can use in assessing the recent performance or future prospects of a company or industry.

What information do we need to judge the company's performance and financial condition? we need financial data, but the data don't tell the whole story. We also need information about consumer spending, producer prices, consumer prices, and competition. The economic data are readily available from both government and private sources. We often concerned about how a company performs in different parts of the economy. Therefore, we hope to evaluate the company through at least one complete economic cycle. In addition to financial statement data, market data and economic data, we also need to study some events that may help explain the current situation of the company and may have an impact on the future prospects of the

company. For example, has the company recently lost production facilities? Is the company developing a new product or buying another company? Current events can provide information that can be incorporated into financial analysis, both to explain recent performance and to help predict future performance. The financial analyst must select relevant information, analyze and interpret the analysis, and make a judgment on the current and future financial status and business performance of the company.

2.2 Financial Statement

Financial statements are accounting reports issued by a firm periodically (usually quarterly and annually) that present past information and the firm's financial position. Listed companies around the world are required to submit financial statements to the relevant listed institutions. They must also submit an annual report with financial statements to shareholders each year. Private companies also typically prepare financial statements, but they are not usually required to disclose them to the public.

For investors, financial statements can provide information about the company's profitability and the risks involved. For enterprise managers, it can guide the company's future development direction and analyze the existing problems. For corporate creditors, they can see the company's asset structure in the financial statements and make a judgment.

There are three types of financial statement: balance sheet; income statement; statement of cash flow.

2.2.1 Balance Sheet

Balance sheet is a statement that reflects the financial position of an enterprise on a specific date.

The balance sheet consists of two parts. The left part represents the assets, which reflect the resources formed by past transactions and events and owned or controlled by the enterprise on a specific date and expected to bring economic benefits to the enterprise. The right part is liabilities and equity. The liabilities in the balance sheet are reflected in the current obligations of the business on a particular date that are expected to result in an outflow of economic

benefits from the business. Equity is the residual equity after deducting liabilities from the assets of an enterprise. It reflects the total net assets owned by shareholders (investors) at a particular date. So, this produces the following formula:

$$A = E + L. \quad (2.1)$$

In this formula, the “A” represents asset, “E” represents equity and “L” represents liability. No matter what happens to the data, in the balance sheet the assets are equal to liabilities plus equity.

Table 2.1 example of balance sheet

BALANCE SHEET	
ASSETS	EQUITY+LIABILITIES
Long-term assets	Equity
Tangible assets	Share capital (par value)
Intangible assets	Contributed capital (excess par value)
Financial investments	Retained earnings
Other long-term assets	
Current assets	Liabilities
Inventories	Short-term borrowings
Account receivable	Long-term debt
Marketable securities	Accounts payable
Other short-term assets	Notes payable
Cash and cash equivalents	Accrued expenses

Source: Dluhosova (2014, p51)

That is a simple balance sheet. From this balance sheet, we can see that asset is divided into long-term assets and current assets. Current assets are the assets which is expected to become cash in a normal operating cycle or will be sold and used. or is expected to within one year from the balance sheet liquidate assets date, or within one year from the balance sheet date to exchange other assets or the ability to pay off debt unlimited cash or cash equivalents. In current assets, we can see inventories, account receivable, marketable securities, other short-term assets, and cash and cash equivalents. Non-current assets are these assets don't belong to

current assets. It always have been used for more than one year. Such as tangible assets and intangible assets. Equipment and land are commonly tangible assets. Goodwill and patent are the example of intangible assets.

On the right side, it is the company's liability and equity. Equity is the e residual interests enjoyed by the owner after deducting liability from asset. It represents all the net assets that belong to investors. It always shows as share capital, contributed capital, and retained earnings. Liability is a kind of capital that has been borrowed from creditors and must be paid back after a certain period of time.

2.2.2 Income statement

The income statement or statement of comprehensive income shows the income and expenditure of a company over a period time. The last line of the income statement shows the company's net income (or net profit), which is a measure of profitability for the period. The income statement is sometimes called a profit and loss, or "P&L" account, and the net income is so referred to as the firm's earnings.

Table 2.2 An example of income statement

Symbol	Item
NS	+Net revenue
C	-Costs of goods sold
C _o	-Other operating costs (sales, marketing, administrative, etc.)
OI	=Operating income
R _f	+Financial revenues
C _f	=Financial costs
FI	=Pre-tax income
t	-Income tax
NI	Net income

Source: Dluhosova (2014, p54)

We can compare with these two statements, income statement and balance sheet. The balance sheet shows the firm's assets and liabilities at a given point in time, the income statement shows

the flow of revenues and expenses generated by those assets and liabilities between two dates. If we want to understand the income statement, we need to know the logical relationship about all the items.

At first, we need to know an underlying formula about the income statement as follow:

$$Revenue - Cost(Expense) = Net\ income(loss). \quad (2.2)$$

The first two lines of the income statement show the income from selling the product and the cost of manufacturing and selling the product. Cost of sales refers to the costs directly related to the production of goods or services sold, such as manufacturing costs. Other expenses such as administrative expenses, research and development expenses and interest are not included in the cost of sales. The third row is gross profit, which is the difference between sales revenue and cost of sales. The next group of items is operating expenses. These are expenses incurred in the course of daily operations and have no direct bearing on the production of the goods or services sold. These expenses include administrative expenses, overheads, sales expenses, and research and development expenses. The third type of operating expenses, depreciation and amortization, is not an actual cash expense but an estimate of the cost of wear and tear or abandonment of a company's assets. A company's gross profit less its operating expenses is called operating income or EBIT (earnings before interest and tax).

We should consider debt financing, which could be called financial activity and the next step is we need to base it on EBIT. EBIT surplus revenue is received in the form of interest, coupons and dividends, and minus financial costs is paid in the form of interest and coupons. The result is pre-tax income and pre-tax earnings (EBT). These are called financial activities. The last step is to pay taxes to the government. EBT times the tax rate, and then we get our final after-tax net profit. This money belongs to the equity holders of the company. There are two distributed ways to EAT. One is to reinvest in the company to reproduce or expand the scale of production. The other, usually the big companies, pay dividends to shareholders.

2.2.3 Cash flow statement

The cash flow statement is the source of cash that an enterprise obtains over a period of time through its activities and the use of these cash flows. The cash flow statement explains the difference between the beginning balance and the ending balance of the company's cash, and summarizes the information of cash inflow (source of funds) and cash outflow (how funds are used) over a period of time

Similar to the income statement, the data in the cash flow statement can be divided into three parts. For example, the company sells its products and services. It then receives cash immediately or receives accounts receivable later. We call that cash inflow. The form of capital outflow is corresponding operating expenses, such as material cost, wages, electricity and so on. Second, financial activities, including all capital inflows and outflows related to the purchase and sale of long-term assets (tangible assets, intangible assets, financial investment). Third, investment activities, that is, the sale of capital. The inflow and outflow of cash is formed under the circumstance of the change of capital of the company. When a company issues stocks and bonds, or borrows long-term debt from others, cash flows into the business. Similarly, cash flows out of companies when they pay dividends, repay bonds and borrow.

Table 2.3 A recording method of cash flow activities

Cash and cash equivalents at the beginning of the year
+/- CF from operating activities
+/- CF from investing activities
+/- CF from financial activities
Cash and cash equivalents at the end of the year

Table 2.4 Indirect format of the cash flow

Symbol	Item
EAT	+Net income
DEP	+Depreciation
Δ_{inv}	-Net inventories
Δ_{rec}	-Net accounts receivable
Δ_{pay}	+Net accounts payable
CF_{oper}	=Cash flow from operating activities
Δ_{INV}	-Net investments
CF_{inv}	=cash flow from investing activities
Δ_B	+Net borrowings
Δ_{RE}	+Net retained earnings
DIV	Dividends
EA	+Net sale of stock
CF_{fin}	=cash flow from financing activities
CF_{total}	=Net cash flow = $CF_{oper} + CF_{fin} + CF_{inv}$

Source: Dluhosova (2014, p57)

2.3 Common-size analysis

The size of a company's account changes over time due to inflation, growth, acquisitions, and divestitures. The financial statements of companies of different sizes reflect different situations. Because of this, we always use the common-size analysis.

Common-size analysis is a tool used by financial managers to analyze financial statements. It evaluates the financial statements by representing each line item as a percentage of the base amount for the period. This analysis helps to understand the impact of each item in the financial statements and its contribution to the final data.

The common-size analysis can be divided into horizontal common-size analysis and vertical common-size analysis.

2.3.1 Horizontal common-size analysis

Horizontal common-size analysis focuses on changes in financial statement data over time to identify increases or decreases in selected indicators. It can be a point-in-time perspective to measure the evolution of a company's financial position and give a goal assessment.

Table 2.5 An original table

Item	2017	2018
Total	1500	2000
Long-term liabilities	700	1000
Short-term liabilities	800	1000

This is a simple table, which can be analyzed by the following formula:

$$\text{Absolute change} = U_t - U_{t-1} = \Delta U_t. \quad (2.3)$$

$$\text{Development of item} = \frac{U_t}{U_{t-1}}. \quad (2.4)$$

In these formulas, t is the current period and $t-1$ is the prior period, U_t is the value of the item. We can know that the total liabilities in 2017 is 1500, and in 2018 is 2000. And we can also know the value about long-term and short-term liabilities in 2017 and 2018. Then we can calculate something like this:

Table2.6 The horizontal analysis result

2017-2018		
Item	Absolute	Development
Total liabilities	+500	133.3%
Long-term liabilities	+300	142.9%
Short-term liabilities	+200	125%

And by doing this calculation, we can figure out how value are changing over this time period.

2.3.2 Vertical common-size analysis

We use vertical common size analysis to analyze the profit model (using the common size income statement) and the investment and financing model (using the common size balance sheet). Because we scale each account by reference account, we can also use the resulting percentage to compare between companies. For example, we can know the change of profit margin over time by the percentage of gross profit to total revenue in successive periods. In addition, we can check the percentage relative to the company's competitors. We can also see how a company's reliance on debt financing has changed over time by focusing on the ratio of liabilities to assets. We can graphically represent this information, which makes it easier to visualize the trend of events over time.

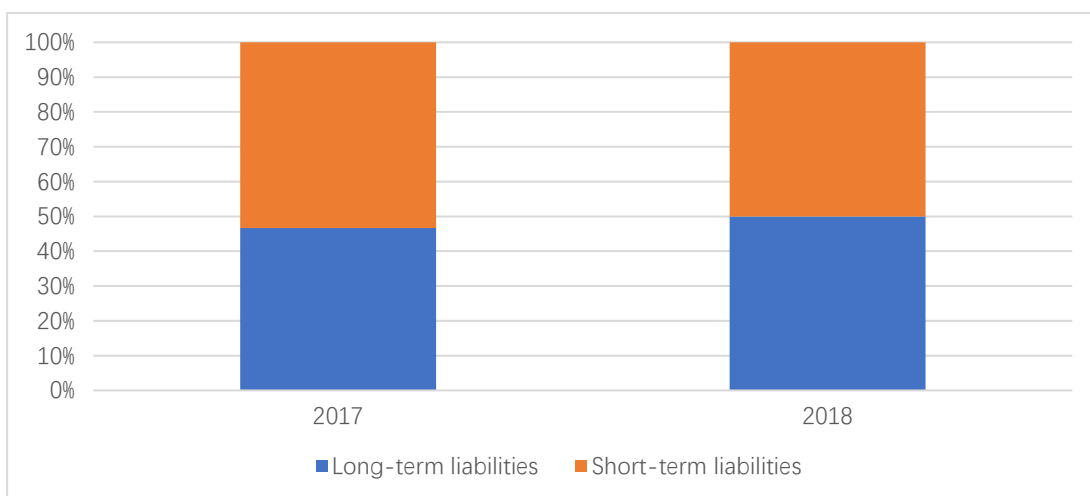
Formula:

$$Proportion = \frac{u_i}{\sum u_i}. \quad (2.5)$$

Table 2.5 An original table

Item	2017	2018
Total liabilities	1500	2000
Long-term liabilities	700	1000
Short-term liabilities	800	1000

Chart2.1 Vertical common-size result



In this case, the long-term liabilities and short-term liabilities' proportion in 2017 and in 2018 are almost same.

2.4 Financial ratio analysis

Financial ratio analysis is to calculate the ratio based on the relationship between two or more items in the financial statements of the same period, so as to evaluate the financial status and operating results of the enterprise, analyze the changes of these indicators or compare with the results and give an effective price. There are many advantages to using this ratio analysis. Firstly, it helps investors and creditors make the right decisions by eliminating the impact of size and comparing the returns and risks between different firms. Secondly, ratio analysis can be used to establish a trend line for a company's results during a large financial reporting period. This highlights changes in the company that would not be apparent if you looked at a given ratio representing only a point in time. It is necessary to use them because these existing ratios are experienced in many scientific practices that can help us successfully evaluate a company. There are some major financial ratios: profitability, liquidity, solvency, and asset management. We will describe it in detail in the following paper.

2.4.1 Profitability ratios

The profitability ratio analyzes the company's ability to generate profit from invested capital. Profitability ratios are a class of financial metrics that are used to assess a business's ability to generate earnings relative to its revenue, operating costs, balance sheet assets, and shareholders' equity over time, using data from a specific point in time. For most profitability ratios, having a higher value relative to a competitor's ratio or relative to the same ratio from a previous period indicates that the company is doing well. Ratios are most informative and useful when used to compare a subject company to other, similar companies, the company's own history, or average ratios for the company's industry. Profitability ratios measure the ability to generate profit from invested capital in the form of return during a period. the higher the profitability ratios, the better competitive position of the company.

Operating profit margin is the ratio of operating income to revenues. It can tell us how much profit a company makes in a dollar of sales. Operating income is revenue minus cost of goods sold and the regular selling, general, and administrative costs of running the business,

excluding interest and taxes. The formula is:

$$OPM = \frac{EBIT}{Rev}. \quad (2.6)$$

Operating profit margin should be used to compare the companies in the same industry. Companies in different industries will have a different average value of operating profit margin.

Net profit margin measures the percentage of net income of the company to the total revenue. Relative to the OPM, the net profit is the value that minus the interest expense, tax, and preferred stock dividends from EBIT. The higher a company's net profit margin, the better its earnings. So we can compare the profitability of the company by net profit margin. All the value we use to calculate this margin can be found in income statement.

The formula is:

$$NPM = \frac{EAT}{Rev}. \quad (2.7)$$

In this formula, “EAT” represents earning after tax. “Rev” represents revenue.

Return on assets is also a profitability ratio. It shows the relationship between the company's operating income and the company's total assets. It tells us how much profit the company can get from the existing assets. It reflects the efficiency of the company in using assets, or in generating profits. Return on asset is shown as percentage, if the ratio is high, we can think this company is good at using assets. In different industry, the average return on assets is different. If we want to compare the situation of the company. We need to compare the ROA of the company at that time with the ROA of the industry at that time. And the formula is:

$$ROA = \frac{EBIT(OP)}{A}. \quad (2.8)$$

In this formula, “EBIT” represents earning before interest and tax. “A” represents assets.

Return on equity is seen as a measure of how effectively management uses company assets to generate profits. ROE are expressed as a percentage. If both net income and equity are positive, ROE can be calculated for any company. Net income is calculated before dividends are paid to common shareholders and before dividends pay interest to preferred shareholders and creditors. The formula is:

$$ROE = \frac{EAT}{Equity}. \quad (2.9)$$

In this formula, “EAT” means earning after tax. “Equity” is shareholders’ equity.

2.4.2 Liquidity ratio

Liquidity ratio, the most commonly financial indicator, is used to measure a company's ability to repay short-term debt. The calculation come from its balance sheet. Generally speaking, the higher the liquidity ratio, the stronger the ability of enterprises to repay short-term debts. Generally, the operating cycle, the amount of accounts receivable in current assets and the turnover speed of inventory are the main factors affecting the liquidity ratio.

Only by comparing the calculated liquidity ratio with the average liquidity ratio of the same industry and the historical liquidity ratio of the company, can we know whether the ratio is high or low. It is generally accepted that the reasonable minimum current ratio of a manufacturing enterprise is 2. This is because the inventory with the worst liquidity among current assets accounts for about half of the total current assets, and the remaining current assets with strong liquidity must be at least equal to current liabilities, so that the short-term solvency of the enterprise can be guaranteed.

Current ratio is the ratio of current assets to current liabilities. It is used to measure the ability of a company's current assets to be turned into cash to repay debts before the maturity of short-term debts. The higher the ratio is, the stronger the liquidity of enterprise assets is, and the stronger the short-term solvency is. The opposite is weak. It is generally believed that the current ratio should be more than 2:1. The current ratio 2:1 indicates that the current assets are twice the current liabilities. Even if half of the current assets cannot be realized in the short term, all current liabilities can be guaranteed to be repaid. The formula is:

$$\text{Current ratio} = \frac{\text{current assets}}{\text{current liabilities}} \quad (2.10)$$

Cash ratio is the ratio between the balance of quick assets after deducting accounts receivable and current liabilities, which can best reflect the ability of an enterprise to pay current liabilities directly. Cash ratios above 20% are generally considered good. However, if the ratio is too high, it means that the current assets of the enterprise are not properly used, while the profitability of the cash assets is low. If the amount of such assets is too high, the opportunity cost of the enterprise will increase. The formula for calculating the cash ratio is:

$$\text{Cash ratio} = \frac{\text{cash} + \text{marketable securities}}{\text{current liabilities}}. \quad (2.11)$$

Quick ratio refers to the ratio of quick assets and current liabilities of an enterprise. Quick assets are the balance of the current assets of an enterprise minus inventory and prepaid expenses, mainly including cash, short-term investment, notes receivable, accounts receivable and other items. The quick ratio is maintained at 1:1, which is relatively normal. It indicates that for every 1 yuan of current liabilities, an enterprise has 1 dollar of easily realizable current assets to offset, and its short-term solvency is guaranteed. If the quick ratio is too low, the short-term debt repayment risk of the enterprise will be large, and the quick ratio is too high. If the enterprise occupies too much capital in the quick assets, the opportunity cost of enterprise investment will be increased. The formula is:

$$\text{Quick ratio} = \frac{\text{current assets} - \text{inventories}}{\text{current liabilities}}. \quad (2.12)$$

2.4.3 Solvency ratio

Companies usually have two ways to raise money, stock and bond. But there are risks in both approaches, whether the company will be able to repay principal, pay interest, or pay dividends as required. They all have relationship with the company's operating condition. The company's financing portfolio of debt and equity will bring financial risks. Financial risk refers to the risk arising from the company's obligation to fulfill the payment obligation stipulated in its financing agreement. We use solvency ratio to evaluate the financial risk level of a company. Solvency ratio indicates whether the cash flow of a company is sufficient to meet its short-term and long-term liabilities. The higher the company's solvency ratio, the less likely it is to default on its debt.

Debt to assets ratio is a financial ratio that measures a company's leverage. Debt ratio is defined as the ratio of total debt to total assets, expressed as a decimal or percentage. It can be explained as the proportion of a company's assets financed by debt.

Different people have different views about debt ratio. Creditors believe that the lower the debt ratio, the better guarantee they will have; the lower the ratio, the more secure the creditor and the lower the loan risk; From the perspective of shareholders, if the total capital profit rate

can be guaranteed to be greater than the borrowing interest rate, then it is hoped that the larger the indicator, the better; otherwise, the opposite is true. From the operator's point of view, the debt is too high, the enterprise is difficult to continue to raise funds, the debt is too low, that the enterprise operation lacks vitality; Therefore, from the perspective of financial management, enterprises should make a balance between profit and risk to determine a reasonable capital structure.

The formula is:

$$\text{Debt to assets ratio} = \frac{\text{total debts}}{\text{total assets}}. \quad (2.13)$$

From this formula, we can know that if the company get more debt, the debt ratio will become higher. The financial industry is one of the industries with rapid cash flow, and its asset-liability ratio is relatively high, generally maintaining above 90%. The retail trade is generally about 55%; Industry and agriculture are relatively low at around 35%.

Debt to equity ratio refers to the relative risk and leverage ratio used to evaluate the holders of the relevant securities. The total amount of debt equity reflects the strength of the financial structure of the audited entity and the degree to which the creditor's capital is protected by the owner's equity. The high ratio of debt to equity indicates that the total capital of the audited unit is high in debt capital, so the degree of protection of debt capital is weak. The low ratio of debt to equity indicates that the auditee has a strong financial strength and thus a relatively high degree of protection of debt capital.

When we calculate debt to equity ratio, we can find the information from balance sheet. The formula is:

$$\text{Debt to equity ratio} = \frac{\text{total debt}}{\text{equity}}. \quad (2.14)$$

Debt to equity ratio is a sensitive index, too high is not good, capital risk is too big; Too low also bad, appear capital operation ability is poor. In the United States, the ratio of debt to equity is usually 1, and in Japan it is 2. In the case of long-term loans, the bank values the debt-to-equity ratio. If the long-term liabilities exceed half of the net assets, the bank will doubt the ability of the enterprise to repay the loans.

Interest coverage is an indicator to measure whether the pretax profit generated by a company can pay the current interest. Interest coverage rate is basically a risk indicator,

especially in the period when the company experiences low performance and free cash flow is fragile. It can indicate whether the company has the ability to pay interest to avoid debt repayment risk and whether it has the financing ability to turn around the predicament. If the ratio is greater than 1, the company has the ability to pay interest. But if the ratio is less than 1, that means the company can't even pay its interest on the profits it generates. In this case, the risk of corporate default is very high.

At a certain point in time, interest coverage can help analysts understand a company's ability to pay its debts, but over time, analyzing interest coverage will make them more aware of whether their debts will become a burden to the company. Interest coverage rate is something investors need to be wary of because it means companies may not be able to pay down debt in the future. However, it is difficult to use any ratio or indicator to accurately predict a company's long-term financial situation.

The formula is:

$$\text{Interest coverage} = \frac{EBIT}{\text{interest paid}} \quad (2.15)$$

2.4.4 Activity ratio

The operating activity ratio can be used to evaluate the efficiency with which a company operates its assets. If efficiency can be equated with fast turnaround, these ratios can be called "efficiency ratios". The activity ratio refers mainly to accounts receivable, inventory, total assets in the balance sheet and revenue or costs of goods sold in the income statement. Here we are mainly describing four activity ratios.

They are average collection period, account receivable turnover, inventory turnover, and total assets turnover.

Account receivable turnover measures the number of times that company will pay for account receivable during this period. For example, the ACP is 6. We know that the customer will cost 60 days to pay for their account. All else being equal, the longer a customer spends on an account, the higher the company's working capital requirements. Generally speaking, the higher the receivables turnover rate, the better. Because it means that the company is collecting its receivables as soon as possible. However, if the ratio is too high, the company may offer

excessive discounts for early payments or may have overly restrictive credit terms.

The formula is:

$$ART = \frac{Rev}{Accounts\ receivable}. \quad (2.16)$$

Comparing with account receivable turnover, the **average collection period** just use 360 to divide receivable turnover. Average collection period indicate how long it takes the company on average to collect sales revenue from credit to customers.

The formula is:

$$ACP = \frac{Account\ receivable}{Rev} \cdot 360. \quad (2.17)$$

Inventory turnover is very important for a company. It is important for a company to have a fast inventory turnover, so that the excess amount of working capital is not diverted to surplus goods. Since the cost of goods transferred during the year is shown on the income statement as the cost of goods sold, the inventory turnover is easily calculated. Inventory turnover reflects the average number of times a company's inventory is sold or turned over in a year. It is calculated by dividing the cost of goods sold for the current period by the average inventory.

The formula is:

$$IT = \frac{costs\ of\ goods\ sold}{average\ inventory}. \quad (2.18)$$

Total assets turnover usually reflects the relationship between the sales revenue per yuan and the assets per yuan on an annual basis, showing the company's ability to effectively use assets to achieve sales. The ratio is one measure of a company's overall efficiency. It is calculated by dividing net sales by average total assets. In calculations, assets that are not used to realize sales, mainly long-term investments, can be deducted from the total amount of assets. On the other hand, for the amount of total assets, analysts generally divide the average assets by 2 by the sum of the beginning total and the ending total. However, if the monthly figures are available, the average total assets should be calculated on a monthly basis.

The formula is:

$$TAT = \frac{revenue}{total\ assets}. \quad (2.19)$$

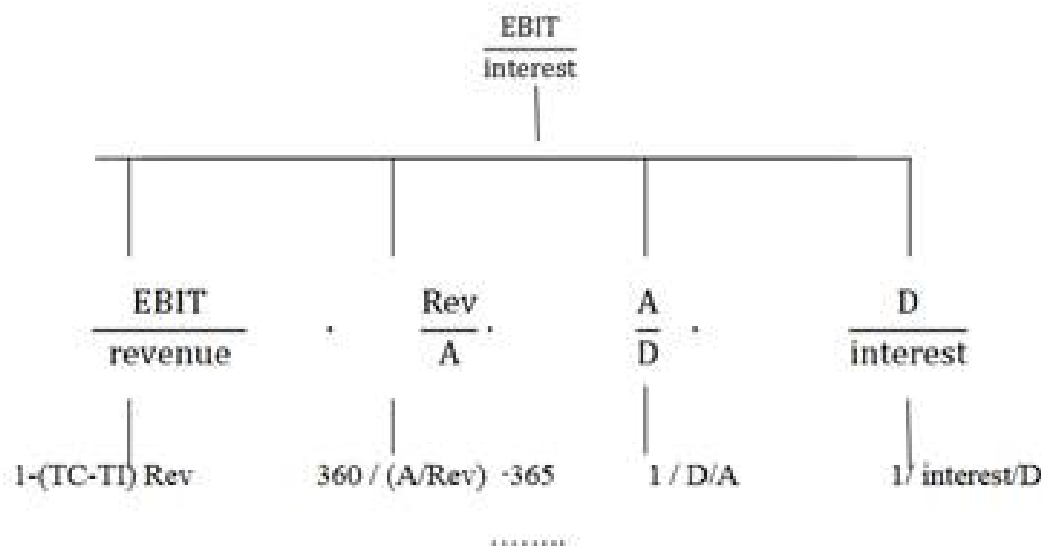
2.5 Pyramidal decomposition

Pyramidal decompositions enable to analyze what drives the value of financial ratios.

When we do the pyramidal decomposition, we will decompose the basic ratio which we want to know into many component ratio. The total change is constant, then we can start to analyze how big the component ratio's affects for the basic ratio. The influence quantification will help us through changing the factor that has a biggest impact to adjust the company's operating state.

In this thesis, we will focus on the solvency ratio about the company. And we chose the interest coverage ratio to do pyramidal decompose. Here is the figure for the decomposition.

Chart2.2 Pyramidal decomposition of EBIT/interest



We can see that very clearly, the basic ratio is $\frac{\text{EBIT}}{\text{interest}}$, that is the first level. $\frac{\text{EBIT}}{\text{revenue}}$, $\frac{\text{Rev}}{A}$, $\frac{A}{D}$, $\frac{D}{\text{interest}}$, these four formulas constitute the second level together. Next, each item will be decomposed to many smaller items. After decomposition, there is an additive relationship between each ratio. Then we will do influence quantification. The bigger value of the ratio, the ratio will have a bigger influence of interest coverage. The sum of changes about every item will not change. And we will find the most important item for the company.

2.6 Influence quantification

In our thesis, we use the method of gradual changes, trying to figure out the influence of component ratios to the basic ratio. In order to find the deeper influence of the component, we decompose the basic ratio: “EBIT/interest” into seven component ratios. Firstly, we will introduce the gradual change method, and the calculation process will be mentioned in the annex3, 4 and 5.

The method works with absolute changes in component ratios. It analyze the change of basic ratio caused by absolute change of each component ratio with the static other ratios. When we use this method, we need to know the number of the component ratios equal the number of equations for influence. The advantage of this method is that the method can be applied regardless of positive or negative value in component ratio or basic ratio. The disadvantage is the order in decomposition can influence the result.

Here is decomposition with 3 component ratios:

$$\begin{aligned}\Delta X_{a1} &= \Delta a_1 \cdot a_{2,0} \cdot a_{3,0}, \\ \Delta X_{a2} &= a_{1,1} \cdot \Delta a_2 \cdot a_{3,0}, \\ \Delta X_{a3} &= a_{1,1} \cdot a_{2,1} \cdot \Delta a_3,\end{aligned}\tag{2.20}$$

From these formula, we can calculate the absolute change in the basic ratio caused by change in the component ratio.

3. Assessment of Financial Position

In this chapter, we will start to combine with Starbucks company's financial statement for analysis. Also, we will describe the process of development and the core product of Starbucks.

3.1 Basic description of Starbucks

Starbucks is the name of an American coffee chain company, founded in 1971, as the world's largest coffee chain, its headquarters is located in Seattle, Washington, the United States. In addition to coffee, Starbucks also has tea, empanadas and cakes and other goods. Starbucks has nearly 12,000 stores worldwide in north and South America, Europe, the Middle East and the Pacific.

3.1.1 Development of Starbucks

In 1987, chairman Howard Schultz bought Starbucks and led the company through several milestones. In June 1992, Starbucks successfully went public as the first professional coffee company, which rapidly promoted the company's business growth and brand development. Currently, the company has more than 12,000 coffee shops in 37 countries in North America, Latin America, Europe, the Middle East and the Pacific coast with over 200,000 employees.

By the end of 2015, Starbucks had more than 23,000 stores. During this period, Starbucks developed some sub-brands through merging other companies or establishing its own. Seattle's Best Coffee, acquired in 2003 to supplement its low-end product line, Ethos Water to supplement the bottled Water market in 2005 and TEAVANA to supplement the high-end tea market in 2013.

3.1.2 The management and company culture of Starbucks

Starbucks Chair & CEO is Howard Schultz, a very charismatic corporate leader. Although he was not the original founder of Starbucks, he joined other investors to buy the still small Starbucks in 1987 and led the company on its expansion path. Howard was arguably the biggest

contributor to the "second wave of coffee", taking coffee drinks into a new phase of ingredients, roasting and ESPRESSO with the globally popular Starbucks. Howard and his management team were very aggressive and aggressive in expanding, adding more than 20,000 stores and employing more than 200,000 people in less than 30 years. Under its influence, Starbucks attaches great importance to the supervision of quality. From the selection of coffee beans to store hygiene, to the espresso making process, Starbucks has very strict standards and is strictly enforced.

3.1.3 Industry status of Starbucks

Starbucks specializes in coffee and coffee retailing, as well as serving desserts and tea. Coffee is a very mainstream drink in European and American countries, so the company has a large number of direct and indirect competitors in this field. Immediate competitors include other Coffee chains (Caribou Coffee, Coffee Bean & Tea Leaves, Dunkin' Donuts, COASTA Coffee, etc.) and non-chain or regional Coffee shops. Indirect competitors include McDonald's, burger king and other fast-food restaurants that sell coffee drinks, and petrol stations that sell cheaper coffee. As of 2016, Starbucks is still the leading coffee specialty chain in terms of sales volume and number of stores.

3.1.4 Major direct competitors

Starbucks' main direct competitors (Coffee chains) include Tata coffee, Coffee Holding Company, Dunkin' Donuts, COSTA Coffee, Coffee Bean& Tea Leaf, Caribou, and more. Indirect competitors include McCafe, which is owned by McDonald's; coffee outlets at many petrol stations (with lots of locations along the highway); and countless niche third-wave cafes.

Tata Coffee, dating back to 1922, is one of the world's largest integrated coffee growing and processing companies and the largest corporate producer of chili Peppers in India. Their 19 estates are spread over nearly 8000 hectares in the lush Western Ghats, flourished with a plethora of flora and fauna. Being one of the leading players in the B2B Instant Coffee industry.

Founded in 1971, Coffee Holding Company, Inc. has been a family run business for three generations serving specialty and institutional roasters, wholesalers, and retailers for more than

47 years. Although we have been publicly traded since 2005 (NASDAQ JVA), we still treat our customers and conduct our business relationships in the same intimate manner as we have since the very beginning

Dunkin' Donuts. It has grown rapidly since its establishment and now has more than 11300 stores in 33 countries and regions around the world. Its main sales of coffee and donuts and other mainstream Europe and the United States baked dessert. Dunkin 'donuts has slightly lower pricing and positioning than Starbucks, but has a good market in a broad area with the eastern United States as its core.

COSTA coffee. WITBREAD is a coffee chain owned by WITBREAD (acquired in 1995). At present, it has more than 2,900 stores in 30 countries and regions. COSTA also has more than 3,500 vending machines to sell its coffee products. Its price and product positioning are comparable to Starbucks, and many people on the Internet rate its coffee as superior to Starbucks.

Coffee Bean& Tea Leaves. It is popular on the west coast of the United States. After decades of development, it has grown into a coffee chain with more than 1,000 stores in 26 countries and regions and more than 10,000 employees. This coffee shop is famous for its iced coffee, which features many iced coffee drinks and forms a certain competition with Starbucks in the west coast of the United States with Los Angeles as the core area.

Caribou Coffee. As a more recent coffee chain, Caribou has not grown too slowly. It now has more than 500 stores in more than 10 countries. Although the small quantity does not pose a direct threat to Starbucks, it has high quality coffee products and its own coffee producing areas and roasting plants. Over the 2013-2014 period, Caribou closed dozens of underperforming stores, but the international market did not suffer.

3.1.5 Indirect competitor

The direct competitors represented by the above four coffee chains are currently unable to compete with Starbucks in terms of market share. But Starbucks also faces many indirect competitors. This includes fast-food brands with outlets like McDonald's and burger king, brands like ILLY and UCC, which mostly make canned coffee, and even instant coffee makers

like nestle and Maxwell house.

3.2 Common-size analysis

We will use common-size analysis to measure the changes in company's finance over 2015 to 2018. Also, we will use chart to show the trend of Starbucks finance and analyze the reason why the situation will appear. For all the common-size analysis will be divided into two parts, horizontal common-size analysis and vertical common-size analysis. The data will all come from the financial statement above.

3.2.1 Horizontal common-size analysis of Starbucks.

As we mentioned in chapter two, it evaluates the financial statements by representing each line item as a percentage of the base amount for the period. We will analyze financial reports from two perspectives. One is absolute change analysis, which can help us know the change in a given year compared to the standard year to achieve general fluctuations. The other was a comparison of five-year ranges, which found some peaks over the period. Let's analyze the data in the balance sheet first.

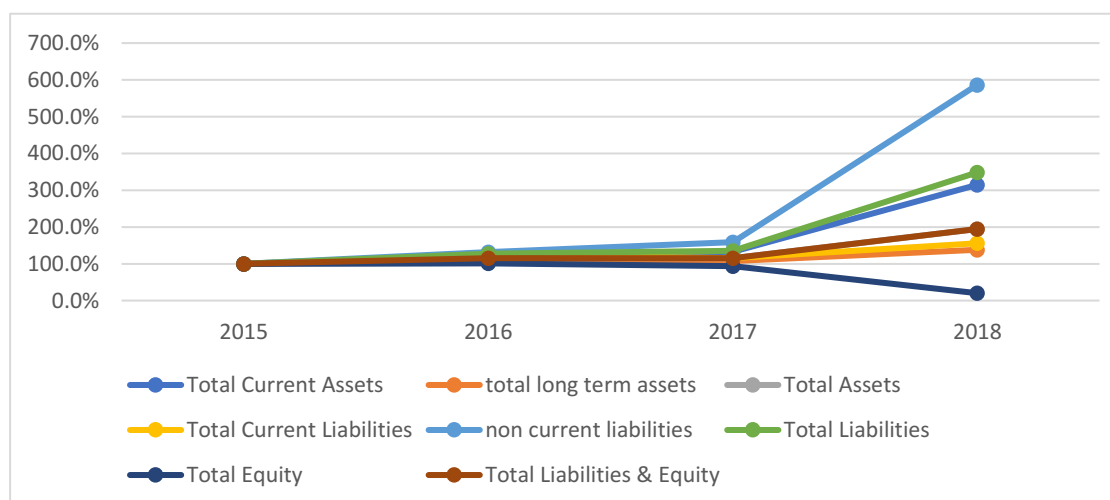
Table3.1 Absolute changes compare with last year in balance sheet.

	2015	2016	2017	2018
Current Assets	0	786900	525500	7210800
Long-Term Assets	0	1109300	-472400	2580000
Total Assets	0	1896200	53100	9790800
Current Liabilities	0	898700	-326100	1463500
Non-current liabilities	0	931500	813100	12607900
Total Liabilities	0	1530200	487000	14071400
Total Equity	0	66000	-433900	-4280600
Total liabilities & equity	0	1896200	53100	9790800

Table3.2 Percentage development compare to 2015 in balance sheet.

	2015	2016	2017	2018
Total Current Assets	100.0%	119.8%	133.0%	314.6%
Long-term assets	100.0%	113.1%	107.5%	138.1%
Total Assets	100.0%	115.3%	115.7%	194.6%
Current Liabilities	100.0%	124.6%	115.7%	155.8%
Non-current liabilities	100.0%	131.6%	159.1%	586.5%
Total Liabilities	100.0%	127.7%	135.1%	348.4%
Total Equity	100.0%	101.1%	93.7%	20.1%
Total liabilities & equity	100.0%	115.3%	115.7%	194.6%

Chart3.1 Horizontal common-size analysis of balance sheet.



From Table3.3 and Table3.4, we mainly selected seven kinds of data from balance sheet, they are current assets, long-term assets, total assets, current liabilities, non-current liabilities, total liabilities and total equity.

When we look at the data over the years, we can find that the total assets are increasing stably. That means Starbucks is in a stable and rapid development stage. From 2015 to 2018, Starbucks' total assets nearly become double.

From Chart3.1, we can know that in these four years, the biggest change is between 2017 and 2018. During 2017 to 2018, the value of non-current liabilities from 159.1% increase to 586.5%. The reason for this dramatic change is the Starbucks company's aggressive overseas expansion. Although, many people can't understand the reason about Starbucks continue to

open new stores in the U.S. During 2017, Starbucks opened more than 700 stores over the world. The total quantity about stores is 28039.

Also, we can know the message from the report. In the third quarter of 2017, Starbucks completed its largest acquisition. Acquiring the remaining 50% shares of Shanghai United Starbucks Coffee Co. It cost 1.3 billion dollars.

At the same time, the equity of Starbucks is decrease in these years. The reason is the Starbucks company cost many dollars for stock repurchase. This shows that Starbucks thinks the company is valuable, but it is undervalued now. This also gave the shareholders confidence.

To sum up, we can know the reason about the increase of liabilities and the decrease of equity. After all, when they open new stores, they need more lands, buildings and equipment. The company needs to borrow more money to satisfy the growth of company. The current assets is increasing stably. That means the Starbucks have a good ability to keep on developing.

In the following table, we will use horizontal common-size analysis about the income statement of Starbucks. The same things as above, at first, we calculate the absolute changes about income statement and development of income statement. Then, drawing a chart to show the variation tendency about Starbucks income

Table3.3 Absolute changes compare to last year about income statement.

Period Ending:	2015	2016	2017	2018
Total Revenue	0	2153200	1070900	2332700
Cost of Revenue	0	721500	525300	1140200
Gross Profit	0	1431700	545600	1192500
Operating Expenses:				
Sales, General and Admin.	0	842200	471900	1047200
Non-Recurring Items	0	0	153500	70900
Other Operating Items	0	86900	30600	235600
Operating Income	0	570900	-37200	-251400
Add'l income/expense items	0	-264500	167300	1791700

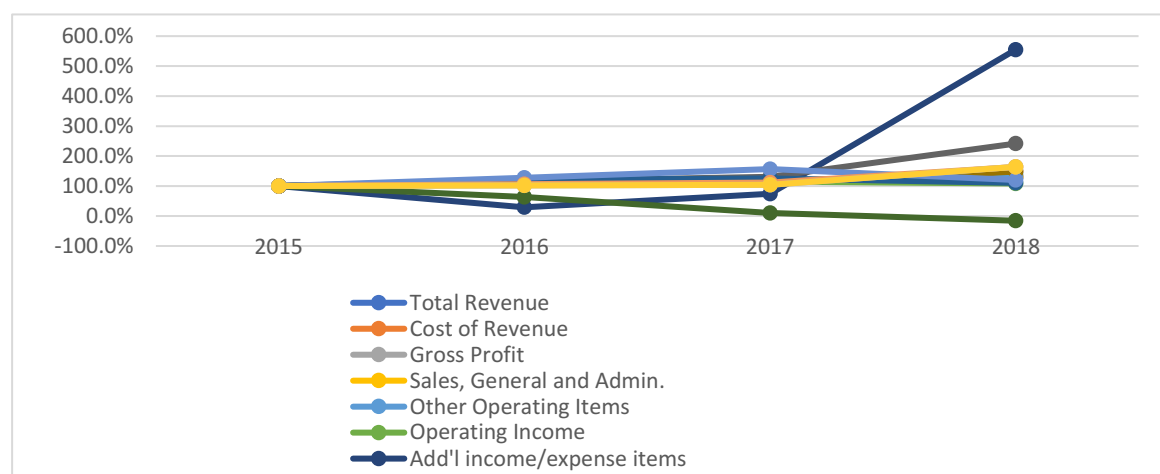
Earnings Before Interest and Tax	0	306400	130100	1540300
Interest Expense	0	10800	11200	77800
Earnings Before Tax	0	295600	118900	1462500
Income Tax	0	236000	52900	-170600
Minority Interest	0	700	1000	500
Equity Earnings/Loss	0	68300	73200	-90200
Net Income-Cont. Operations	0	189700	140200	1543400
Net Income	0	60300	6700	1633600

Table3.4 Percentage development compare to 2015 in income statement.

Period Ending:	2015	2016	2017	2018
Total Revenue	100.0%	111.2%	116.8%	129.0%
Cost of Revenue	100.0%	109.3%	116.0%	130.7%
Gross Profit	100.0%	112.6%	117.4%	127.9%
Sales, General and Admin.	100.0%	111.8%	118.4%	133.1%
Other Operating Items	100.0%	109.7%	113.1%	139.5%
Operating Income	100.0%	115.9%	114.8%	107.8%
Add'l income/expense items	100.0%	29.0%	73.9%	554.9%
Earnings Before Interest and Tax	100.0%	107.7%	111.0%	149.7%
Interest Expense	100.0%	115.3%	131.2%	241.6%
Earnings Before Tax	100.0%	107.6%	110.6%	148.1%
Income Tax	100.0%	120.6%	125.3%	110.3%
Minority Interest	100.0%	63.2%	10.5%	-15.8%
Equity Earnings/Loss Unconsolidated Subsidiary	100.0%	127.3%	156.6%	120.5%
Net Income-Cont. Operations	100.0%	106.4%	111.2%	163.6%

Net Income	100.0%	102.2%	104.6%	163.9%
Net Income Applicable to Common Shareholders	100.0%	102.2%	104.6%	163.9%

Chart3.2 Horizontal common-size analysis of income statement.



From the Table3.6. We can see that, in terms of total revenue, from 2015 to 2018 is a continuing upward trend. Corresponding to the total revenue, the increase in cost of revenue is the same. That means there hasn't been a particularly dramatic change in the company's operations. So the company's gross profit also presents a near-identical growth trend.

At the same time, we can see that the growth rate of Starbucks' administrative expenditure, sales and general expenditure are also rising year by year. This has something to do with the overseas expansion of Starbucks, as we mentioned earlier. With the increase in the number of stores, the operating expenses are gradually increasing.

From Table3.5. We can see that in 2017, although the company's gross profit was increased, the company's net profits actually decreased. But management is optimistic about that. Because some part of the profit is used in the Partner investment program in the staff and is used on Digital investment.

Furthermore, we can see that the company's interest expenditure shows an extremely rapid growth trend. This is also related to the reasons for the increase in liabilities shown in the balance sheet above. The company intends to increase its own financial leverage to seek development, but also can see the company's management development determination.

3.2.2 Vertical common-size analysis of Starbucks.

In this part we will use the vertical common-size analysis. In the second chapter, we mentioned the vertical common-size analysis is analyze the share of each project in total value. Next, we'll analyze the various items on the balance sheet of 2015 to 2018.

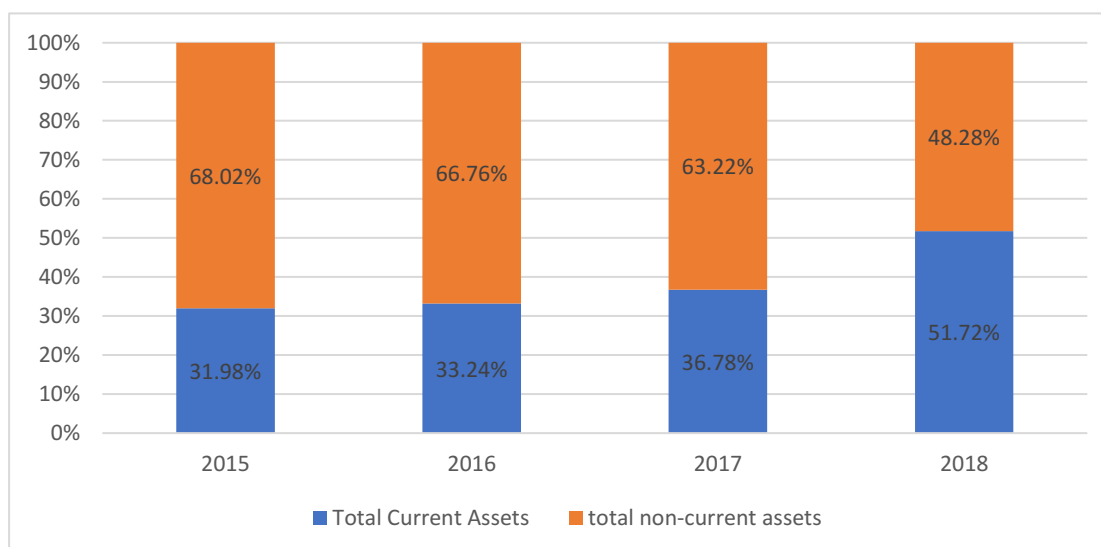
First, we calculate the proportion situation and show it in a table. Then we use the data in the table to make a percentage stacked histogram. This will help us feel the share of the data more intuitively.

Table3.5 Proportion of each item in assets.

	2015	2016	2017	2018
Total Current Assets	31.98%	33.24%	36.78%	51.72%
total non-current assets	68.02%	66.76%	63.22%	48.28%
Total Assets	100.00%	100.00%	100.00%	100.00%

Shown here is the proportion of current and non-current assets in the total asset each year.

Chart3.3 Vertical common-size analysis of assets.



From Table3.7 and Chart3.3 We can see very clearly the structure of the assets over the four years. First of all, we can see that the proportion of current and non-current assets from 2015 to 2017 has been in a relatively stable situation. But in 2018, the share of current assets reached 51.72%. Until then, the share of non-current assets has been twice times that of current assets.

After we have compared our balance sheets, we can see that the significant increase in the

share of current assets in 2018 was due to the significant increase in cash and cash equivalents in current assets during the year. Cash and cash equivalents rose from 2.4 billion in 2017 to 8.7 billion in 2018.

When other conditions remain the same, an increase in current assets means an increase in the company's turnover ratio. The company's short-term solvency has increased. At the same time, the opportunity cost of the company will become larger. At the same time, the increase in company cash also means that the company has more adequate funds to carry out business activities.

As is done above, we want to calculate the proportion of liabilities and equity.

Table3.6 Proportion of items in equity and liability.

	2015	2016	2017	2018
Total Current Liabilities	29.38%	31.77%	29.38%	23.53%
Non-current liabilities	23.76%	27.12%	32.68%	71.63%
Total Liabilities	53.14%	58.89%	62.06%	95.16%
Total Equity	46.86%	41.11%	37.94%	4.84%
Total Liabilities & Equity	100.00%	100.00%	100.00%	100.00%

Chart3.4 Vertical common-size analysis of equity and liability.

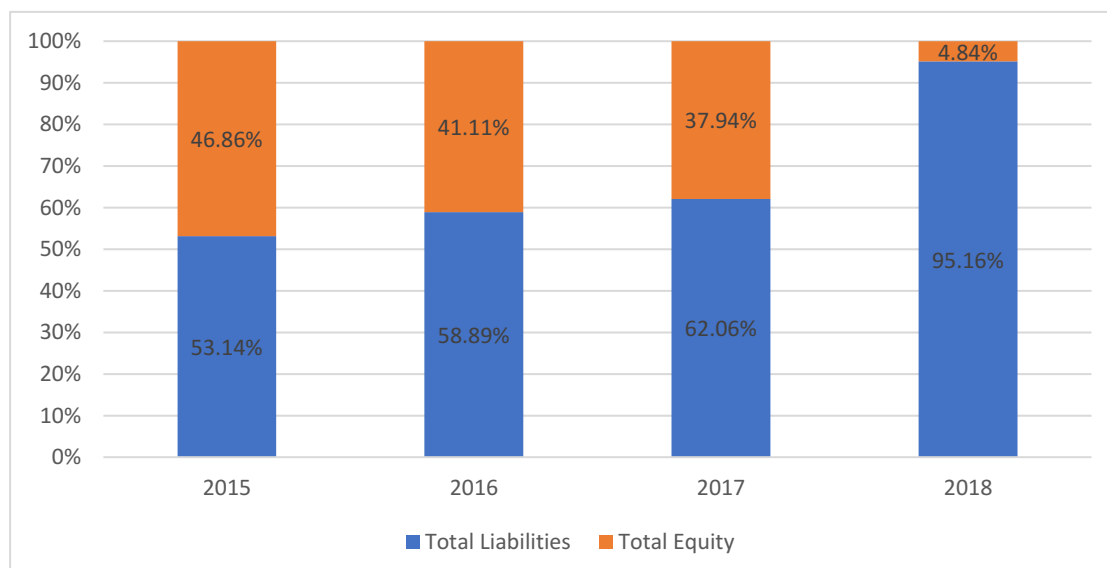
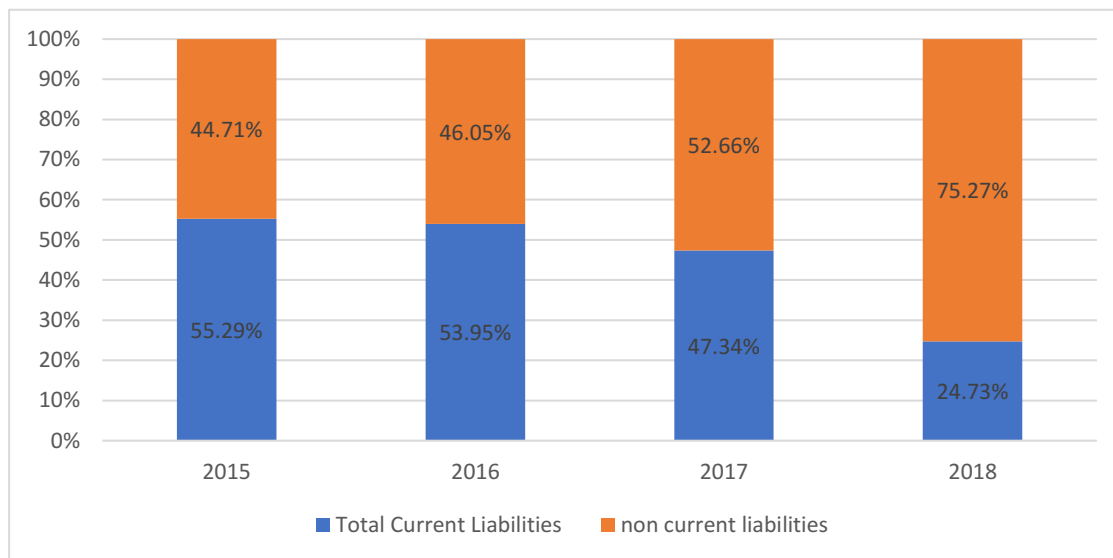


Chart3.5 Vertical common-size analysis of liability.



From Chart3.4. We can see that Starbucks ' liabilities and equity are not in a relatively stable state. On the contrary, the proportion of owner's equity is in a trend of decreasing year by year. From 2015 to 2017, the proportion of equity fell from 46.86% to 37.94%. In 2018, in particular, there was a substantial decline, which turned into a share of 4.84%.

This also coincides with the share repurchase we have made in the Starbucks company mentioned earlier. Because the company's management believes that the value of the stock is now undervalued, so through the share buyback to increase the value of the stock. It also gives management better control over the company, which also makes it better to complete the company's plans.

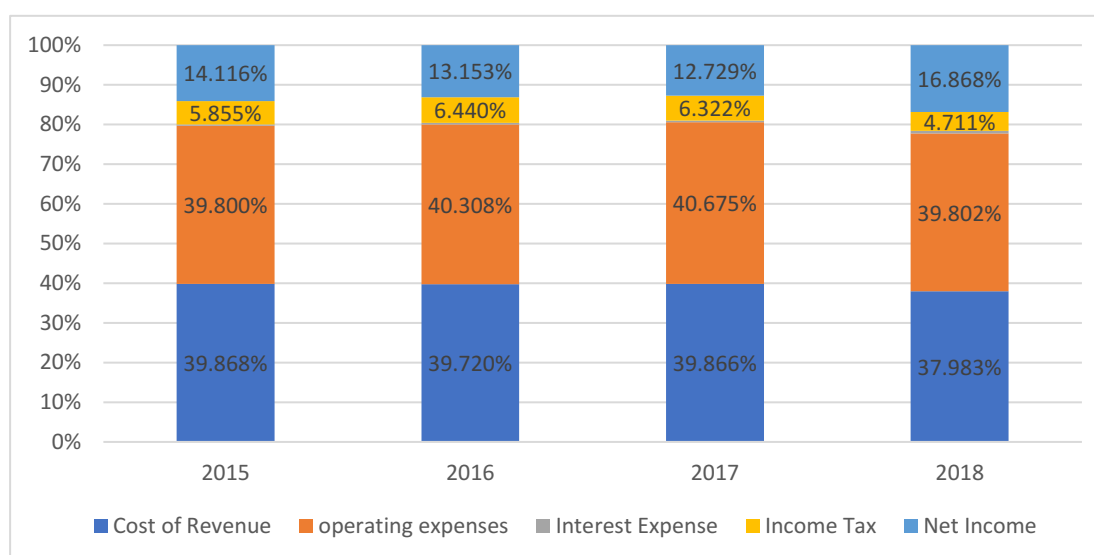
As for where the money from the share repurchase comes from. With Chart3.1, we can see that Starbucks ' total liabilities is a rising trend. And from Chart3.5 we can see that the rise in liability is mainly due to the rise in non-current liabilities. This is also the result of the company's massive expansion, is a normal state of development.

The next step is to analyze the income statement using vertical common-size analysis. I will mainly analyze the two aspects of income and expense.

Table3.7 Proportion of items about revenue.

	2015	2016	2017	2018
Total Revenue	100%	100%	100%	100%
Cost of Revenue	39.868%	39.720%	39.866%	37.983%
operating expenses	39.800%	40.308%	40.675%	39.802%
Interest Expense	0.361%	0.380%	0.408%	0.636%
Income Tax	5.855%	6.440%	6.322%	4.711%
Net Income	14.116%	13.153%	12.729%	16.868%

Chart3.6 Vertical common-size analysis of revenue.



In Table 3.9, we take total revenue as 100%. Other expenditure items, as well as final net income, are considered to be an integral part of total income. Then we got the Table3.9. In this way, we can clearly see the proportion of total income. And then use the data from table 3.9 to make a stacked histogram. Then we get the Chart3.6.

Through the Chart3.6, we know that the cost of revenue, operating expenses, interest expense, income tax and net income's proportion all in a relatively stable state. The biggest proportion of these is operating expenses and cost of revenue. The stable share also means that the company's development is relatively stable and has not resulted in a significant increase in interest due to excessive indebtedness.

There was a significant increase in the share of net income in 2018. It is better to know from the chart that the increase in net income is mainly due to lower cost of revenue and lower

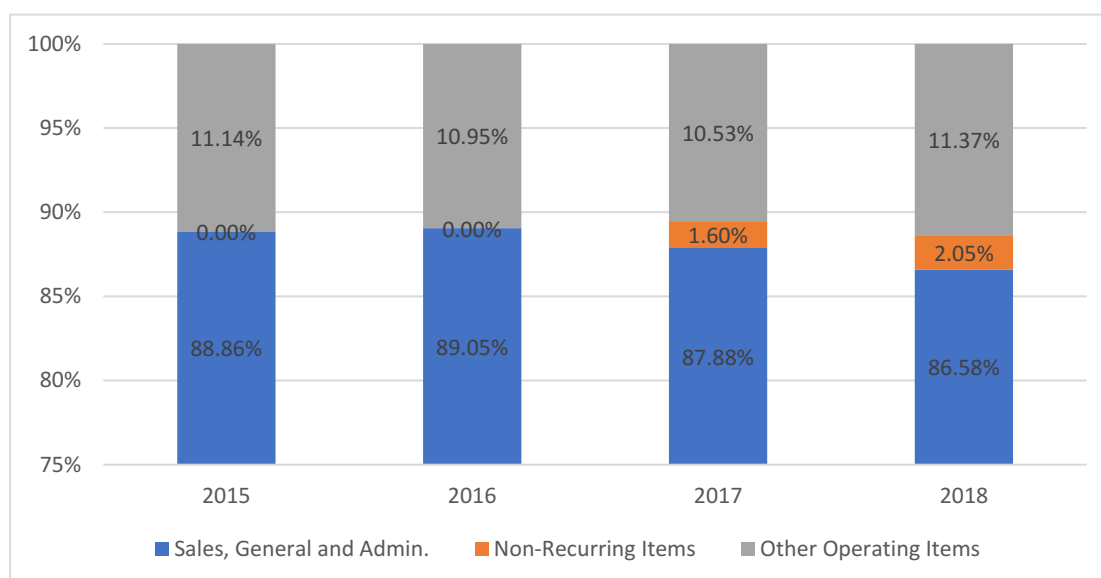
income taxes. This is related to the company's own regulation, is a good trend.

Next, we do an vertical common-size analysis of the company's operating expenses. The results are as follows.

Table3.8 Proportion of operating expenses.

	2015	2016	2017	2018
Sales, General and Admin.	88.86%	89.05%	87.88%	86.58%
Non-Recurring Items	0.00%	0.00%	1.60%	2.05%
Other Operating Items	11.14%	10.95%	10.53%	11.37%
operating expenses	100%	100%	100%	100%

Chart3.7 Vertical common-size analysis of operating expenses.



With Chart3.7, we can see that the main operating expenses are sales expenses, general expenses and administrative expenses. If Starbucks wants to adjust its operating expenses, these are the main things that need to be adjusted.

3.3 Financial ratio analysis.

In this section, we're going to start calculating and analyzing Starbucks ' financial ratios. In the second chapter we have mentioned four financial ratios, which are profitability ratio, liquidity ratio, activity ratio and solvency ratio. Here, let's start with an analysis of the previous three ratios. The analysis of the solvency ratio of the company will be carried out in the next chapter.

First we calculate the values of the various ratios from 2015 to 2018, respectively. We then compare the data over the years and compare it with the industry average. From this, we can get some conclusions.

3.3.1 Profitability ratio analysis.

The profitability ratios we have selected are operating profit margin, net profit margin, return on assets and return on equity. In the table below, we will give the calculation results of these ratios. The calculated data are derived from the financial statements from 2015 to 2018.

Table3.9 Profitability ratio of Starbucks.

	2015	2016	2017	2018
Operating profit margin	20.74%	20.08%	19.70%	24.07%
Net profit margin	14.39%	13.22%	12.89%	18.28%
Return on assets	32.00%	29.90%	30.70%	24.63%
Return on equity	47.39%	47.89%	52.93%	386.34%

Only through the data we can't intuitively see the changes in the various ratios, so we make a line chart on this basis. And, because 2018 of years of ROE data is large, it affects what other data shows in a line chart. So we made the ROE a separate line chart.

Chart3.8 Profitability ratio of Starbucks.

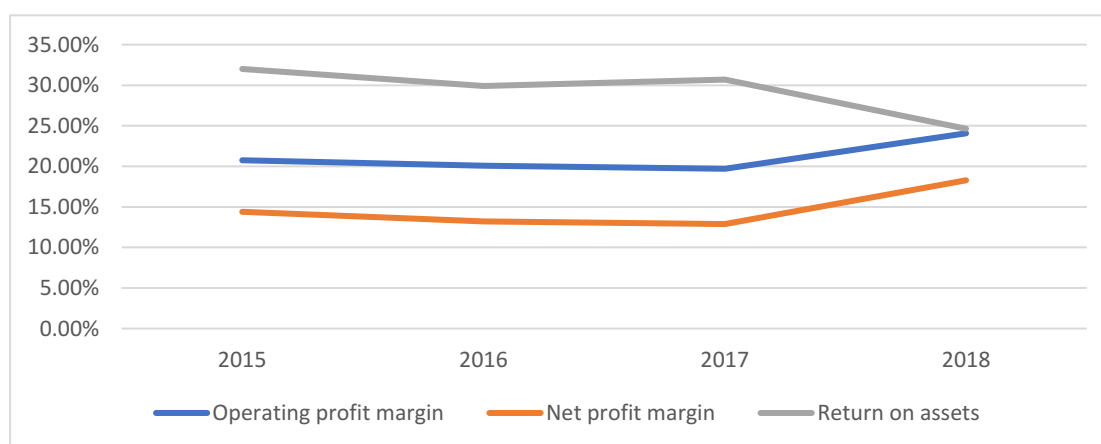
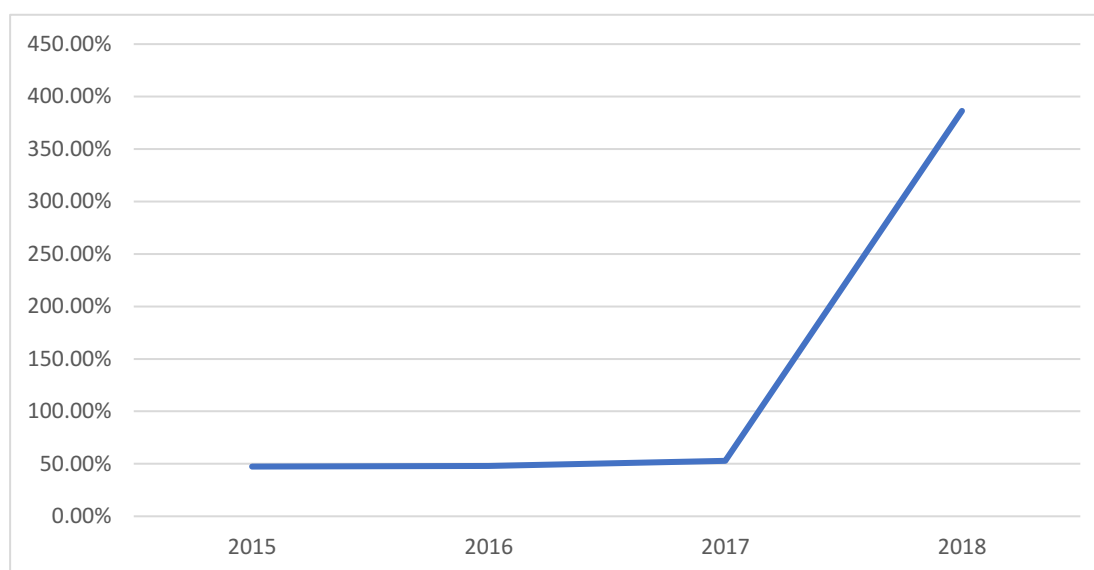


Chart3.9 Return on equity of Starbucks.



All four ratios reflect the profitability of Starbucks, and the higher the value means the stronger the company's profitability. We can see it through Chart3.8. In addition to the ratio of ROA, other ratios are an upward trend on the whole. At this time we need to analyze the changes in molecules and denominators.

ROA is a downward trend, and its value has fallen from 32% in 2015 to 24.63% in 2018 years. But by comparing the annual data in the balance sheet and income statement, we can see that Starbucks' operating profit and assets are on the rise. So, the decline in ROA is due to the increase in total assets faster than the growth rate of operating profits. As the company accelerates its development, it has led to a considerable increase in assets through borrowing. At this time, the decline of ROA is a normal phenomenon, which does not mean that the profitability of the company's capital decline. At the same time, we can find ROA in the industry. This value is 8.79%. It's clear that Starbucks' data is much higher than the data in the industry. This shows that the value of Starbucks investment is relatively high.

Operating profit margin and net profit margin are on an upward trend. This means that the company in the increase in revenue, at the same time, the ability to control costs is also strengthening, so get more profits. More net income also provides protection for the future development of the company. The industry for the same period of operating profit margin is 6.53%, net profit margin is 4.15%. Starbucks' data are well above industry data, which also proves that Starbucks is good at profitability.

Through Chart3.9, We can see a sudden increase in Starbucks ' ROE. In the preceding we mentioned that ROE is the ratio of operating profit to equity. The sudden increase in ROE is not because operating profit is growing too fast, but because of the decline in equity. We also mentioned earlier that Starbucks is actively engaged in stock repurchase and overseas expansion. It also led to a rise in Starbucks ' liabilities, which affected ROE. There will be no negative impact in the short term, but companies should pay attention to changing the situation.

3.3.2 Liquidity ratios analysis.

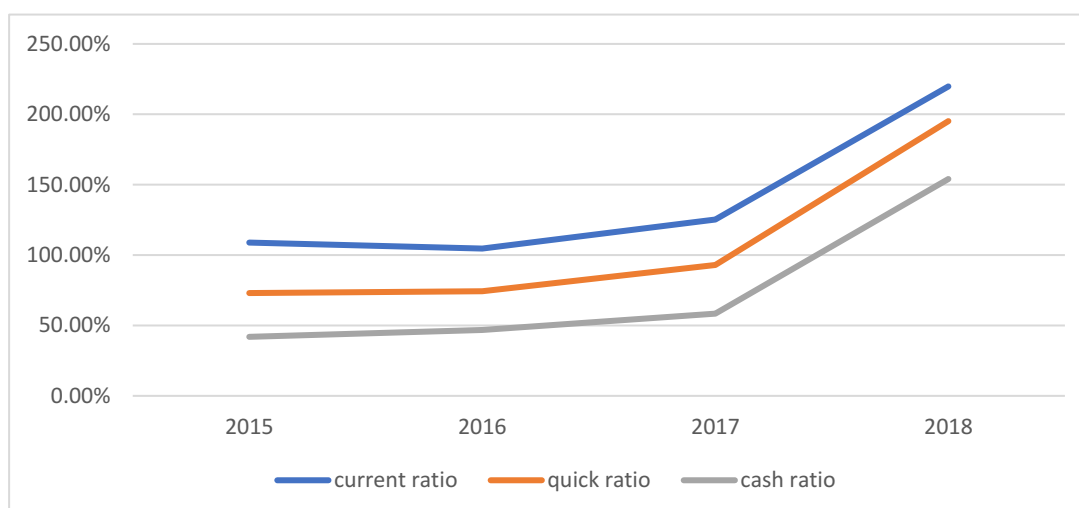
The liquidity ratios we have selected are current ratio, quick ratio and cash ratio. In the table below, we will give the calculation results of these ratios. The calculated data are derived from the financial statements from 2015 to 2018.

Table3.10 Liquidity ratios of Starbucks.

	2015	2016	2017	2018
current ratio	108.85%	104.64%	125.18%	219.81%
quick ratio	73.04%	74.32%	92.86%	195.17%
cash ratio	41.94%	46.82%	58.34%	154.05%

Similarly, we make a line chart of the data in the table to show the changes intuitively.

Chart3.10 Liquidity ratios analysis.



First, we can learn from chart 3.10 that Starbucks ' three liquidity ratios were on the rise between 2018 and 2015. This means that the liquidity of the company's assets is gradually

increasing. And then we put the perspective on current ratio. We can see that current ratio has remained above 100% and has even reached 219% in 2018 years. This suggests that the company has enough money to pay off its liabilities, because in general the company's current ratio should be maintained at 200%.

Quick ratio is the liquidity of the money shown after the impact of the inventory has been ruled out. The value of this ratio is generally maintained at 100%. As you know in Chart3.10, quick ratio has grown to around 100% in the first three years. It grew to 195% in 2018. The exorbitant quick ratio proves that the company's asset liquidity is good, but it also means that the company has a lot of idle money, so it can't maintain too high a quick ratio for a long time. Similarly, cash ratio reflects this situation. So, Starbucks needs to plan further for the use of the funds.

3.3.3 Activity ratio analysis.

The activity ratios we have selected are account receivable turnover, average collection period, total assets turnover and inventory turnover. In the table below, we will give the calculation results of these ratios. The calculated data are derived from the financial statements from 2015 to 2018.

Table3.13 Activity ratio of Starbucks.

	2015	2016	2017	2018
accounts receivable turnover	26.65188	27.7262	25.72013	35.66513
average collection period	13.50749	12.98411	13.99682	10.09389
total assets turnover	1.54335	1.489321	1.558362	1.023311
inventory turnover	5.961038	6.172651	6.623387	7.264905

Chart3.11 Activity ratio (ART, ACP) of Starbucks.

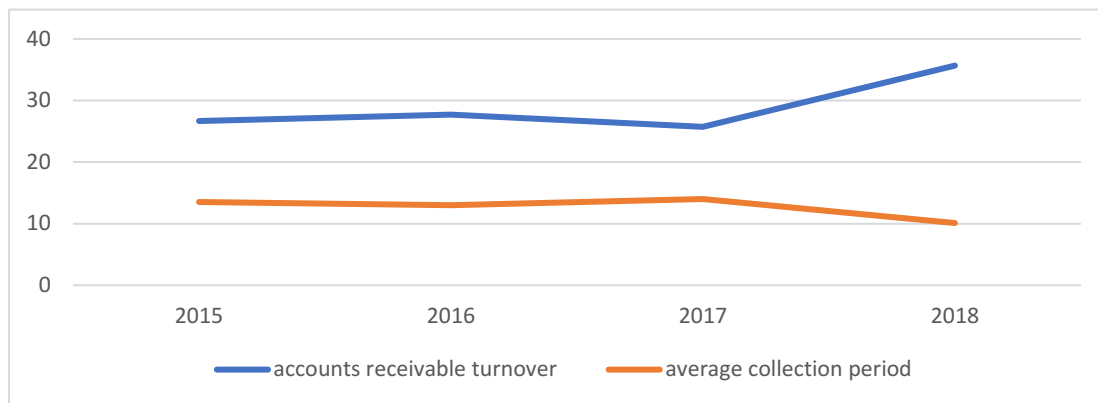
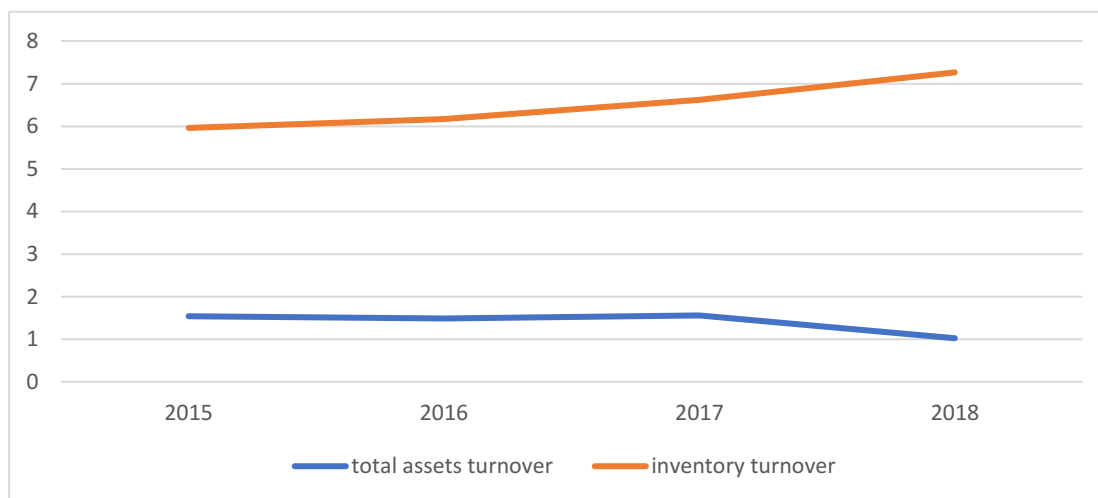


Chart3.12 Activity ratio (TAT, IT) of Starbucks.



Through Chart3.11, we can see how ART and ACP are changing. ART is an upward trend, while ACP is a downward trend. This is also due to the fact that the formula for calculating the two ratios is the opposite and is a normal situation. Starbucks' rising ART and declining ACP reflect the company's strong liquidity and a good ability for repaying short-term debt. We can see that the value of ART in 2018 is 35.66. This means that accounts receivable can be converted to cash within 35 times in a year. Of course, the turnover rate of accounts receivable in the industry can reach 71. As a result, Starbucks still has a lot of room for improvement in the operation of funds.

Through Chart3.12, Starbucks' asset turnover is not very high, and there has been a downward trend in recent years. In terms of the industry's asset turnover rate, this value is 2.3, while Starbucks' TAT is only about 1.5. From this we can assume that Starbucks is not efficient enough to use its assets, which is an area that needs to be strengthened in the future.

Inventory turnover has been an upward trend, rising from 5.9 in 2015 to 7.2 in 2018. This

shows that the speed of Starbucks inventory turnover is accelerating, but also means that the company's sales capacity is enhanced. Overall, the company's activity ratio is increasing. This means that the company's operational management capabilities are increasing, which helps to increase the investment confidence of creditors.

4. Solvency assessment.

This chapter is the core chapter of this thesis. In this chapter, we will mainly analyze the solvency of Starbucks company. Here, we will analyze the solvency of the company in two ways. One is to calculate the solvency ratio of Starbucks and then compare it with other companies. The other is to decompose one of these ratios to get the degree to which each item affects the total change.

4.1 Solvency ratio analysis.

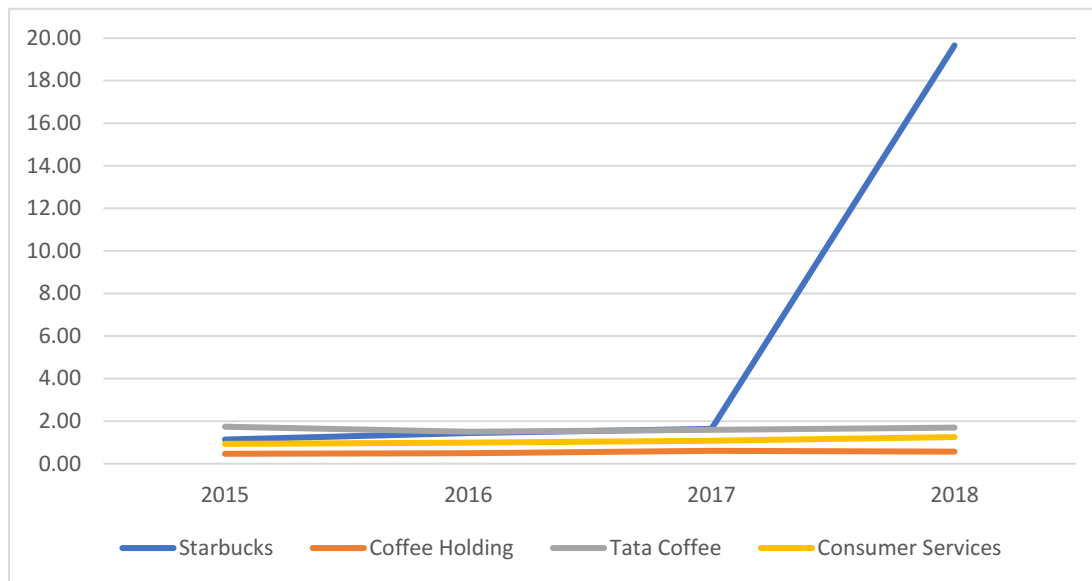
Here we are mainly calculating the following three ratios. Debt to assets ratio, debt to equity ratio and interest coverage. Our calculated data are derived from the balance sheet and income statement from 2015 to 2017. For comparison purposes, we have also selected data from several other companies that are also in the service sector for comparison.

Table4.1 Debt to equity ratio of Starbucks and other companies.

	2015	2016	2017	2018
Starbucks	1.13	1.43	1.64	19.66
Coffee Holding	0.46	0.50	0.60	0.56
Tata Coffee	1.74	1.50	1.59	1.70
Consumer Services	0.93	0.98	1.08	1.25

In this table, the first line of the year. The second line is debt to equity ratio of Starbucks. The third and fourth lines are data for two other companies. The final consumer services are the average data in Starbucks ' service industry. Then we use a line chart to show the data in the table, which makes it easier for us to compare.

Chart4.1 Debt to equity ratio of Starbucks and other companies.



In Chart4.1, we can see that the 2018 data of Starbucks changed too much, making other relatively small data changes less obvious. But it is still easy to see that Starbucks' debt to equity ratio is worth a lot more than other companies. As we also mentioned in chapter two, debt to equity ratio shows the amount of long-term liabilities of the company and the degree to which the capital of the creditor is protected by the owner's equity. If the value of this ratio is high, it means that the company's debt burden is heavy. Correspondingly, if the value of this ratio is relatively low, it means that the level of security of the debt capital is higher, it can also be said that the business situation is better.

From the data above, we can tell that Starbucks debt to equity ratio in each of these four years is higher than the industry average. The debt to equity ratio in the industry is between 0.9 and 1.25. But this value of Starbucks has been higher than 1.1. And it's growing, reaching a more exaggerated 19.66 in 2018. This reflects Starbucks' reduced equity financing, increased direct financing and increased the number of long-term liabilities.

The exorbitant ratio reflects that the solvency of the company is not very good. But it can be learned from the company's report that Starbucks is actively reducing owner equity and borrowing a lot of money for overseas expansion in order to expand the size of the market. And by comparing the relationship between debt and assets, we can see that the current debt is still acceptable. Therefore, it is also an acceptable situation to say that the company's business strategy has led to the increase in this ratio.

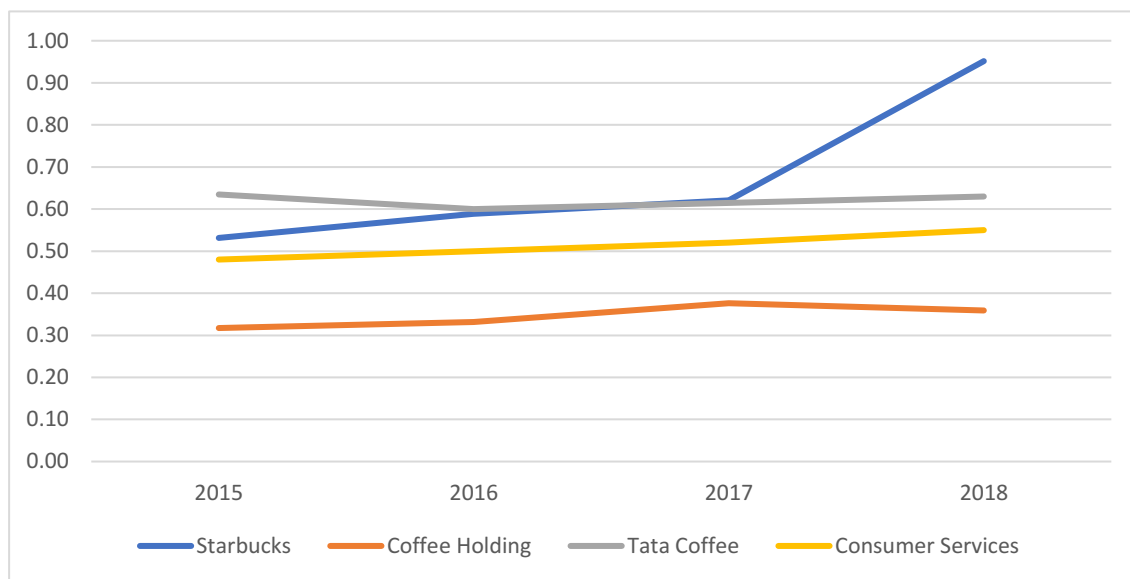
So next we'll show you the data debt to assets ratio.

Table4.2 Debt to assets ratio of Starbucks and other companies.

	2015	2016	2017	2018
Starbucks	0.53	0.59	0.62	0.95
Coffee Holding	0.32	0.33	0.38	0.36
Tata Coffee	0.63	0.60	0.61	0.63
Consumer Services	0.48	0.50	0.52	0.55

In this table, the first line of the year. The second line is debt to assets ratio of Starbucks. The third and fourth lines are data for two other companies. The final consumer services are the average data in Starbucks ' service industry. Then we use a line chart to show the data in the table, which makes it easier for us to compare.

Chart4.2 Debt to assets ratio of Starbucks and other companies.



From Chart4.2, We can find that Starbucks ' debt to assets ratio is also significantly higher than the value of other companies as well as the industry. We can find that the value of debt to assets ratio of the industry is generally around 0.5. Because the duty at 0.5 means that the company's assets are twice times the debt. At this time, the company has enough money to repay the debt, so the financial risk is relatively low.

Because Starbucks ' debt to assets is higher than the industry's value, high debt can pose a big risk to creditors, meaning there is a problem with the solvency of the company. But for shareholders, as long as the interest on borrowing is lower than the profit margin of capital, it

is profitable. So the current ratio is good for shareholders. Moreover, the sufficiently funds brought about by the liabilities are more conducive to the business activities of the operators.

Starbucks ' debt to assets ratio grew from 0.53 in 2015 to 0.95 in 2018. This means that liabilities are rising. Although this should be the intention of the company. But it does mean that the company's solvency has declined. Things should get better after the company ends this round of business strategy.

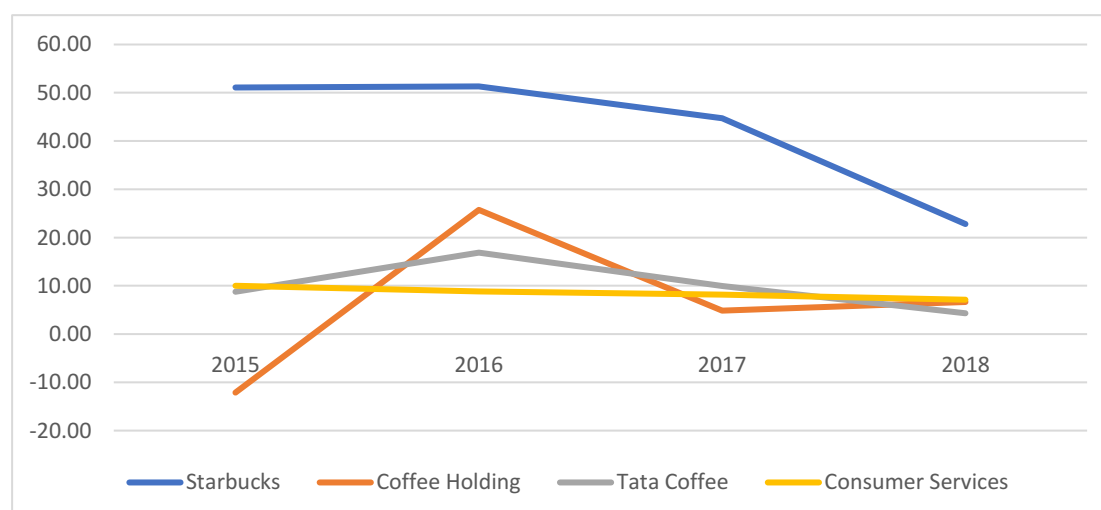
Next, it is a comparison of the interest coverage of Starbucks.

Table4.3 Interest coverage ratio of Starbucks and other companies.

	2015	2016	2017	2018
Starbucks	51.08	51.31	44.70	22.80
Coffee Holding	-12.13	25.73	4.88	6.67
Tata Coffee	8.79	16.88	10.00	4.31
Consumer Services	10.01	8.85	8.17	7.12

In this table, the first line of the year. The second line is interest coverage ratio of Starbucks. The third and fourth lines are data for two other companies. The final consumer services are the average data in Starbucks ' service industry. Then we use a line chart to show the data in the table, which makes it easier for us to compare.

Chart4.3 Interest coverage ratio of Starbucks and other companies.



In Chart4.3, we can see that Starbucks ' interest coverage is much higher than the data in the same industry. The industry's data is between 7 and 10, but Starbucks ' interest coverage is much higher than 10. That means Starbucks has enough money to repay interest. That means

Starbucks is good at solvency in this respect.

At the same time, we can see that Starbucks ' interest coverage is declining. This is due to a lot of growth in the company's borrowing, which makes interest costs much larger. In order to maintain a good solvency, Starbucks should properly reduce its long-term liabilities.

Through the above three ratios. Starbucks ' debt to equity and debt to assets are both too high. Only interest coverage is more normal. Overall, Starbucks ' solvency needs to be improved.

4.2 Pyramidal decomposition analysis of Starbucks.

Pyramidal decomposition is a kind of financial analysis techniques that decompose a basic ratio into many component ratios. We can analyze the extent about each component ratio affects the base ratio by influencing quantification. Find the factors that have the greatest impact on the company by constantly decomposing. Then by changing these influencing factors to achieve the goal of improving the operating state of the company.

Pyramidal decomposition can be used to analysis many different ratios. Here we use it to analyze Starbucks ' solvency ratio. In the preceding we mentioned three different solvency ratios. They are debt-to-assets ratio, debt-to-equity ratio and interest coverage. Here, we mainly decompose the interest coverage.

This decomposition process is the same as shown in Chart2.2. First of all, we decompose "EBIT/interest" into the following four ratios. "EBIT/Revenue", "Rev/A", "A/D", "D/interest". Then we will continue decompose these four ratios. With this decomposition, we can get dozens of different ratios. Because there are too many different data., we decide to start to analysis from the fourth level.

At the fourth level, we can get several following ratios. "TC/Rev" represents "Total cost/Revenue"; "TI/Rev" represents "Total income/Revenue"; "(L-TA/Rev)·365" represents "(Long-term asset/Revenue)·360; "(S-TA/Rev)·365" represents "(Short-term asset/Revenue)·360; "L-TD/A" represents "Long-term debt/Asset"; "S-TD/A" represents "Short-term debt/Asset"; "Interest/D" represents "Interest/Debt".

The method we used to quantification of influence is methods of gradual changes. At first,

we calculate the value of the component ratios in each period. Then we calculate the absolute changes in component ratios. In the end we use the formula (2.20) to calculate the influence quantification.

In this influence quantification, the $a_{0,1}$ is $\frac{EBIT}{revenue}$ in basic year and $a_{1,1}$ is $\frac{EBIT}{revenue}$ in next year. The a_2 is $\frac{Revenue}{assets}$, a_3 is $\frac{assets}{debt}$, a_4 is $\frac{debt}{interest}$. Through these, we can calculate the influence use the formula (2.20).

Because the component ratio have the additive relations, if we calculate the result of the influence is positive, when we increase the ratio, the interest coverage will increase too.

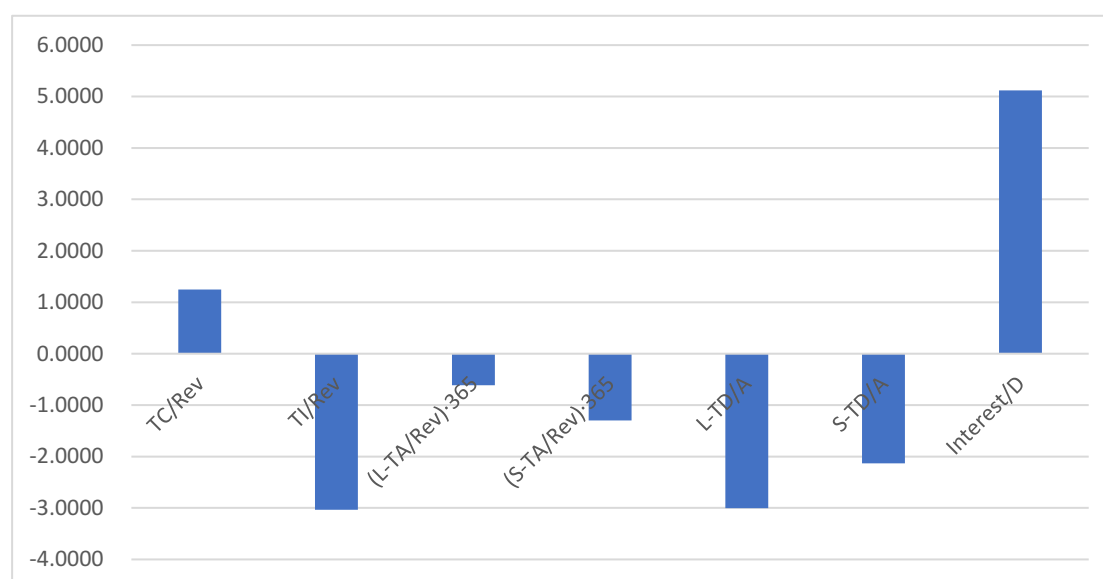
Firstly, we calculate the degree of influence of each item first. Then we compare their size and sort it out. And then show them intuitively by making charts.

Table4.4 Pyramidal decomposition of interest coverage during 2015-2016.

	Influence	Order	Influence (+,-)
TC/Rev	1.2488	5	+
TI/Rev	-3.0351	2	-
(L-TA/Rev)·365	-0.6114	7	-
(S-TA/Rev)·365	-1.2991	6	-
L-TD/A	-3.0052	3	-
S-TD/A	-2.1343	4	-
Interest/D	5.1178	1	+
\sum sum	-3.7184		

This table shows us the following points. At first, after the pyramidal decomposition. The interest coverage was decomposed into TC/Rev, TI/Rev, (L-TA/Rev)·365, (S-TA/Rev)·365, L-TD/A, S-TD/A, Interest/D. In the last line, we can see that the total amount of change in interest coverage is minus 3.7184. Interest/D have the biggest influence for interest coverage. The value is positive 5.1178. The second one about influence is TI/Rev and the value is minus 3.0351. The smallest amount of influence is (L-TA/Rev)·365 and the value is minus 1.2991. And then we show the data in the chart.

Chart4.4 Pyramidal decomposition of interest coverage during 2015-2016.



From the Chart4.4, there are two positive factors. All the other component ratio are negative factors. Between these two years, the amount of change in interest coverage has been negative. That is to say, the negative influence is greater than the positive influence. That is, if Starbucks wants to improve the solvency of the company. Then he needs to reduce the negative influence about TI/Rev, L-TD/A, S-TD/A, which with a large negative influence.

Table4.5 The items influence TI/Rev.

	Influence	Order	Influence (+,-)
income items/Rev	-3.0351	1	-

Because there is only one, so if you want to reduce the influence of TI/Rev, we need to control income items.

Table4.6 The items influence L-TD/A.

	Influence	Order	Influence (+,-)
Long-Term Debt/A	-2.9948	1	-
Other Liabilities/A	0.0185	3	+
Minority Interest/A	-0.0289	2	-

Based on the data in the table, we can control long-term liabilities and minority interest to improve the solvency of Starbucks.

Table4.7 The items influence S-TD/A.

	Influence	Order	Influence (+,-)
Accounts Payable/A	0.5967	2	+
Short-Term Debt/A	-2.4987	1	-
Other Current Liabilities/A	-0.2322	3	-

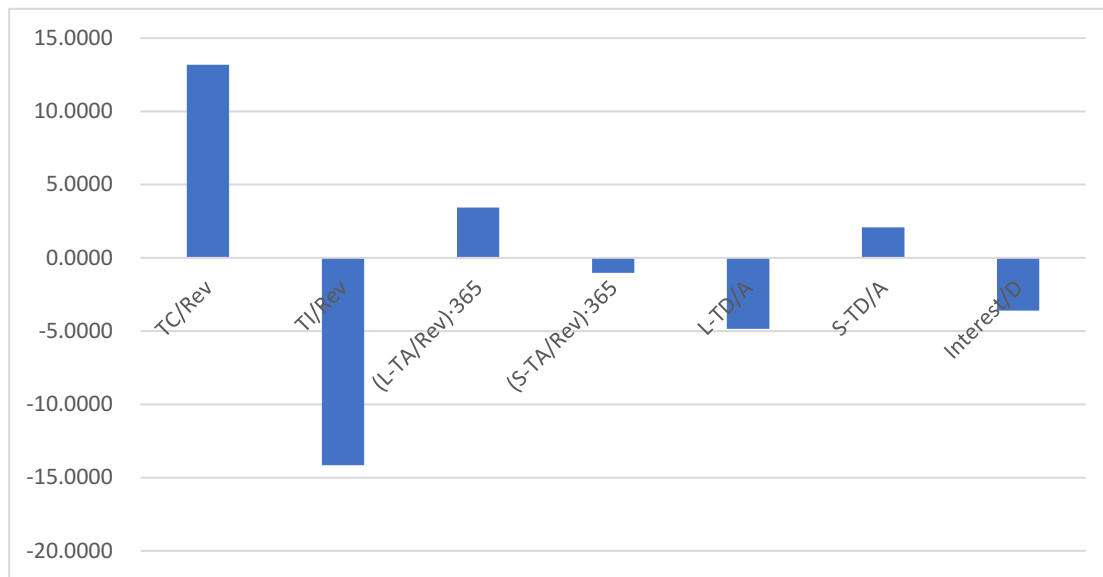
Based on the data in the table, we can control short-term debt and other current liabilities to improve the solvency of Starbucks.

Table4.8 Pyramidal decomposition of interest coverage during 2016-2017.

	Influence	Order	Influence (+,-)
TC/Rev	13.1697	2	+
TI/Rev	-14.1642	1	-
(L-TA/Rev)·365	3.4242	5	+
(S-TA/Rev)·365	-1.0299	7	-
L-TD/A	-4.8415	3	-
S-TD/A	2.0790	6	+
Interest/D	-3.6049	4	-
Σsum	-4.9676		

This table shows us the following points. At first, after the pyramidal decomposition. The interest coverage was decomposed into TC/Rev, TI/Rev, (L-TA/Rev)·365, (S-TA/Rev)·365, L-TD/A, S-TD/A, Interest/D. In the last line, we can see that the total amount of change in interest coverage is minus 4.9676. TI/Rev have the biggest influence for interest coverage. The value is negative 14.1642. The second one about influence is TC/Rev and the value is positive 13.1697. The smallest amount of influence is (S-TA/Rev)·365 and the value is minus 1.0299. And then we show the data in the chart.

Chart4.5 Pyramidal decomposition of interest coverage during 2016-2017.



From the Chart4.4, there are three positive factors. All the other component ratio are negative factors. Between these two years, the amount of change in interest coverage has been negative. That is to say, the negative influence is greater than the positive influence. That is, if Starbucks wants to improve the solvency of the company. Then he needs to reduce the negative influence about TI/Rev, L-TD/A, which with a large negative influence.

Table4.9 The items influence TI/Rev.

	Influence	Order	Influence (+,-)
income items/Rev	-14.1642	1	-

Because there is only one, so if you want to reduce the influence of TI/Rev, we need to control income items.

Table4.10 The items influence L-TD/A.

	Influence	Order	Influence(+,-)
Long-Term Debt/A	-4.4583	1	-
Other Liabilities/A	-0.3555	2	-
Deferred Liability Charges/A	-0.0267	3	-
Minority Interest/A	-0.0011	4	-

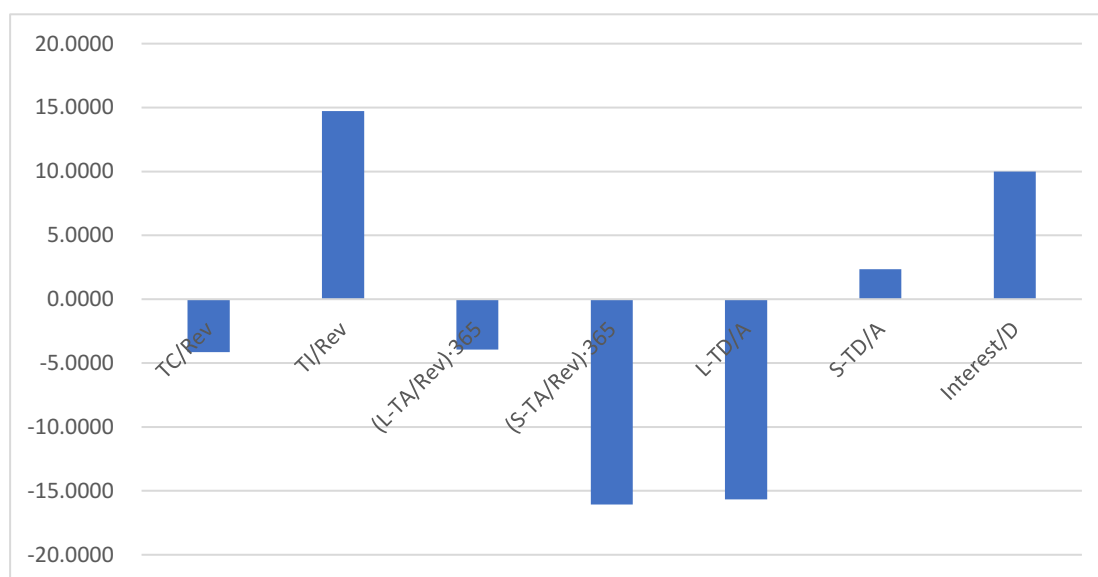
Because each of these has a negative impact on interest coverage. So we should reduce the value of each item to increase interest coverage. Especially we need to control the long-term debt.

Table4.11 Pyramidal decomposition of interest coverage during 2017-2018.

	Influence	Order	Influence (+,-)
TC/Rev	-4.1464	5	-
TI/Rev	14.7279	3	+
(L-TA/Rev)·365	-3.9398	6	-
(S-TA/Rev)·365	-16.0624	1	-
L-TD/A	-15.6572	2	-
S-TD/A	2.3517	7	+
Interest/D	9.9906	4	+
Σsum	-12.7356		

This table shows us the following points. At first, after the pyramidal decomposition. The interest coverage was decomposed into TC/Rev, TI/Rev, (L-TA/Rev)·365, (S-TA/Rev)·365, L-TD/A, S-TD/A, Interest/D. In the last line, we can see that the total amount of change in interest coverage is minus 12.7356. (S-TA/Rev)·365 have the biggest influence for interest coverage. The value is negative 16.0624. The second one about influence is L-TD/A and the value is minus 15.6572. The smallest amount of influence is S-TD/A and the value is positive 2,3517. And then we show the data in the chart.

Chart4.6 Pyramidal decomposition of interest coverage during 2017-2018.



From the Chart4.4, there are three positive factors. All the other component ratio are negative factors. Between these two years, the amount of change in interest coverage has been negative.

That is to say, the negative influence is greater than the positive influence. That is, if Starbucks wants to improve the solvency of the company. Then he needs to reduce the negative influence about $(L-TA/Rev) \cdot 365$, $(S-TA/Rev) \cdot 365$, TC/Rev which with a large negative influence.

Table4.12 The items influence $(S-TA/Rev) \cdot 365$.

	Influence	Order	Influence(+,-)
Cash and Cash Equivalents/ $Rev \cdot 365$	-14.5603	1	-
Short-Term Investments/ $Rev \cdot 365$	0.1710	5	+
Net Receivables/ $Rev \cdot 365$	0.6463	3	+
Inventory/ $Rev \cdot 365$	0.2547	4	+
Other Current Assets/ $Rev \cdot 365$	-2.5742	2	-

Through the data in the table, we can see that cash and cash equivalents have the greatest negative impact on interest coverage. Also the other current assets have the negative influence on interest coverage. If we control these two items, we can improve Starbucks ' solvency.

Table4.13 The items influence $L-TD/A$.

	Influence	Order	Influence(+,-)
Long-Term Debt/ A	-4.1228	2	-
Other Liabilities/ A	-0.2793	3	-
Deferred Liability Charges/ A	-11.2639	1	-
Minority Interest/ A	0.0088	4	+

Based on the data in the table, we can control long-term debt, other liabilities and deferred liability charges to improve the solvency of Starbucks. In particular, we can control the deferred liability charges.

Table4.14 The items influence TC/Rev .

	Influence	Order	Influence(+,-)
Cost of rev/ Rev	-1.6610	1	-
sales, General, Admin/ Rev	-1.3976	2	-
other operating item/ Rev	-1.0878	3	-

Because each of these has a negative influence on interest coverage. So we should reduce the value of each item to increase interest coverage. Especially we need to control the cost of

revenue.

Finally, we calculate the sum up of all the absolute value of component ratio. And calculate the percentage of them in the whole changes. We will calculate the influence during 2015 to 2018.

Table4.15 Pyramidal decomposition of interest coverage during 2015-2018.

	15-16	16-17	17-18	Σ sum	Percentage	Order
TC/Rev	1.2488	13.1697	4.1464	18.5649	14.78%	4
TI/Rev	3.0351	14.1642	14.7279	31.9272	25.41%	1
(L-TA/Rev)·365	0.6114	3.4242	3.9398	7.9755	6.35%	6
(S-TA/Rev)·365	1.2991	1.0299	16.0624	18.3914	14.64%	5
L-TD/A	3.0052	4.8415	15.6572	23.5038	18.71%	2
S-TD/A	2.1343	2.0790	2.3517	6.5649	5.23%	7
Interest/D	5.1178	3.6049	9.9906	18.7133	14.89%	3
Σ sum				125.6410		

By comparing the percentage of the data in the table, we can draw the conclusion that during these four years, TI/Rev have the largest influence about interest coverage.

The second one is L-TD/A, the third one is Interest/D. Adjusting these data is more helpful in changing the interest coverage of Starbucks. It is also more helpful to improve the solvency of the Starbucks.

5. Conclusion

As the company grows in size, companies are bound to borrow to increase the company's financial leverage, allowing the company to have more money to produce and expand. At this time, whether the company can repay the debt has become a matter of concern to the company's creditors as well as investors. Because of this, It is very meaningful to evaluate the solvency of Starbucks Company in this thesis.

In this paper, we select the company and plan where to start doing it, then calculate the relevant data, and finally analyze and draw some conclusions.

In the third chapter. After we introduced the development history, industry status, competitors of Starbucks, we started using common-size analysis to assessment the Starbucks financial position. After that, we used the financial ratio analysis. By calculating the relevant data in the financial statements, we can analyze whether Starbucks is facing a crisis. And then there's the important solvency analysis and pyramidal decomposition. Through this, we understand the strength of Starbucks ' solvency and the factors that influence the solvency of Starbucks company.

Through the analysis of some ratios, we can come to the conclusion that the profitability of Starbucks, the ability about the liquidity of capital, the activity are very good. This means that companies have the ability to make a profit, while the operation and flow of funds are guaranteed. But what we can't ignore is that Starbucks' ability of solvency is not as good as other ability.

When we measure the solvency of Starbucks, we calculate debt-to-assets ratio, debt-to-equity ratio and interest coverage. We finally found that, Starbucks' debt-to-assets ratio and debt-to-equity ratio are higher than the industry. This means that Starbucks ' solvency is below the industry average.

Then we have to mention a phenomenon. Starbucks ' various financial ratios changed a lot between 2017 and 2018. This is due to Starbucks ' advocacy for overseas expansion. Because of this, Starbucks borrowed a lot of long-term liabilities. This led to a reduction in the solvency of Starbucks. At the same time, Starbucks has made a share repurchase, largely reducing the

share of owners ' equity.

Through pyramidal decomposition. We know that, in period 2015-2016 “interest/D” have the largest influence about solvency. In period 2016-2017 “TI/Rev” have the largest influence about solvency. In period 2017-2018 “(S-TA/Rev)-365” have the largest influence about solvency.

In the end, some things need to be mentioned. When we research the company's data, we need to combine the company's actual operating options with the macroeconomic impact. The regulation of the government is also an important influencing factor. On the other hand, the data in the three financial statements are interrelated, which resulting in correlation between the liquidity, profitability and solvency of the company. So we can't just draw conclusions about a certain set of data. We need a comprehensive analysis of the company's operating conditions.

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List of Abbreviations


A	Asset
ACP	Average collection period
D	Debt
EBIT	Earnings before interest and tax
EBT	Earnings before tax
EAT	Net profit
E	Shareholders' equity
IT	Inventory turnover
L-TA	Long-term assets
L	Liability
NPM	Net profit margin
ROA	Return on assets
ROE	Return on equity
Rev	Revenue
S-TA	Short-term assets
TI	Total income
TC	Total cost
TAT	Total assets turnover

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Student's name and surname

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Annex 1: Balance sheet of Starbucks during period 2015-2018

Annex 2: Income statement of Starbucks during period 2015-2018

Annex 3: Pyramidal Decomposition of Solvency during period 2015-2016

Annex 4: Pyramidal Decomposition of Solvency during period 2016-2017

Annex 5: Pyramidal Decomposition of Solvency during period 2017-2018

Annexes

Annex 1: Balance sheet of Starbucks during period 2015-2018 (thousand, Dollar)

Period Ending:	9/27/2015	10/2/2016	10/1/2017	9/30/2018
Current Assets				
Cash or cash equivalent	1530100	2128800	2462300	8756300
Short-Term Investments	81300	134400	228600	181500
Net Receivables	719000	768800	870400	693100
Inventory	1306400	1378500	1364000	1400500
Other Current Assets	334200	347400	358100	1462800
Total Current Assets	3971000	4757900	5283400	12494200
Long-Term Assets:				
Long-Term Investments	664500	1496200	1023900	602400
Fixed Assets	4088300	4533800	4919500	5929100
Goodwill	1575400	1719600	1539200	3541600
Intangible Assets	520400	516300	441400	1042200
Other Assets	415900	403300	362800	412200
Deferred Asset Charges	1180800	885400	795400	134700
Total Assets	12416300	14312500	14365600	24156400
Current Liabilities:				
Accounts Payable	2664300	2975700	2932200	3691400
Short-Term Debt		399900		349900
Other current liabilities	983800	1171200	1288500	1642900
Total Current Liabilities	3645100	4546800	4220700	5684200
Long-Term Debt	2347500	3185300	3921600	9090200
Other Liabilities	600900	689700	750900	1430500
Deferred liability charges			4400	6775700
Misc. Stocks				

Minority Interest	1800	6700	6900	6300
Total Liabilities	6598300	8428500	8915500	22986900
Stock Holder's Equity:				
Common Stocks	1500	1500	1400	1300
Capital Surplus	41100	41100	41100	41100
Retained Earnings	5974800	5949800	5563200	1457400
Treasury Stock				
Other Equity	-199400	-108400	-155600	-330300
Total Equity	5818000	5884000	5450100	1169500
Total Liabilities & Equity	12416300	14312500	14365000	24156400

Annex 2: Income statement of Starbucks during period 2015-2018 (thousand, Dollar)

	9/27/2015	10/2/2016	10/1/2017	9/30/2018
Total Revenue	19,162,700	21,315,900	22,386,800	24,719,500
Cost of Revenue	7,787,500	8,509,000	9,034,300	10,174,500
Gross Profit	11,375,200	12,806,900	13,352,500	14,545,000
Operating Expenses:				
Sales, General and Admin.	7,130,200	7,972,400	8,444,300	9,491,500
Non-Recurring Items	0	0	153,500	224,400
Other Operating Items	893,900	980,800	1,011,400	1,247,000
Operating Income	3,601,000	4,171,900	4,134,700	3,883,300
Add income/expense items	372,500	108,000	275,300	2,067,000
Earnings Before Interest and Tax	3,973,500	4,279,900	4,410,000	5,950,300
Interest Expense	70,500	81,300	92,500	170,300
Earnings Before Tax	3,903,000	4,198,600	4,317,500	5,780,000
Income Tax	1,143,700	1,379,700	1,432,600	1,262,000
Minority Interest	-1,900	-1,200	-200	300
Equity Earnings/Loss	249,900	318,200	391,400	301,200
Net Income-Cont. Operations	2,946,200	3,135,900	3,276,100	4,819,500
Net Income	2,757,400	2,817,700	2,884,700	4,518,300
Net Income applicable	2,757,400	2,817,700	2,884,700	4,518,300

[illegible]

[illegible]

[illegible]